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REPORT OF COMMITTEE ON TABULATION OF WATER RATES AND OTHER INFORMATION OF INTEREST TO WATER COMPANIES[1]

In presenting this report the committee desires to express its appreciation of the courtesy of the water works superintendents and others who have so graciously furnished the information contained herein and have by letter and word of mouth given suggestions and data which should be both interesting and valuable to our membership. We sincerely trust that the tabulation may prove "worth while" not only to the water works superintendent, but to the engineer, the city official, or the citizen interested in the subject of water supply.

The committee desires, however, to give expression to a strong word of caution against the liberal acceptance and use, for comparative purposes, of any segregated part or parts of this tabulation, it being an obvious fact that the only fair comparison which can be made between water departments will be that comparison which considers every condition surrounding the operation of the departments under comparison. As illustrative of this statement, we would cite the following examples:

1. A comparison of water rates for domestic consumption will be manifestly unfair unless every "cost item" is carefully considered. A city with a "frontage tax," an unfiltered water and an ordinance compelling all citizens to be patrons of the water department, can furnish water at "apparently lower rates" than another city operating its plant upon a different basis.

2. The hydrant rental in a certain city will be "apparently low" in comparison, until it is ascertained that high pressure is not maintained for fire service and that the hydrants are installed and kept in repair at the expense of the city. Another hydrant rental will be "apparently high" until it is ascertained that the pressure is increased for a fire service, that fire steamers are not used, and that the hydrant rental covers much "free water."

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[1] Data compiled by F. C. Jordan, C. C. Cray, and W. G. Ulrich, of the Indianapolis Water Company, May, 1914.

3. The question of source of supply, quality of service, and liberality of franchise, are items which materially affect the operation of the plant, and a fair comparison will give due consideration to these items.

In the preparation of this tabulation, which has extended throughout the greater part of a year, the committee has become very much impressed with the truth and importance of the above mentioned facts, and accompanying this report is their request that careful thought be given to every item entering into the comparison, so that no city nor any superintendent shall be placed in an unfair light.

F. C. JORDAN, Chairman;
A. PRESCOTT FOLWELL,
F. H. DUNHAM,
F. H. SHAW,
GEORGE G. EARL,
Committee.

CITY	POPULATION, 1910	OWNERSHIP, WHETHER MUNICIPAL OR PRIVATE	SCHEDULE OF WATER RATES						NUMBER OF CONSUMERS	NUMBER OF METERS	METER RATE PER 1000 GALLONS		IS WATER TREATED
			House use 6 rooms	Bath	Closet	Wash stand and Laundry tubs	Sprinkling 40 feet with privilege of sprinkling roadway	Total			Maximum	Minimum	
Anniston, Ala.	12,794	P							1,600	1,300	26.6	6	No
Bessemer, Ala.	10,864	P							2,832	1,500			No
Birmingham, Ala.	132,685	P											
Mobile, Ala.	51,521	M							11,769	2,223	15	5	Yes
Montgomery, Ala.	38,136												
Phoenix, Ariz.	11,134	M	12.00	3.00	6.00		5.76	26.76	4,100	300	12½	12½	No
Fort Smith, Ark.	23,975	M	8.00	2.00	2.00		6.00	18.00	3,836	1,000	25	10	Yes
Little Rock, Ark.	45,941												
Pine Bluffs, Ark.	15,102	P							2,077	2,077	40	15	No
Los Angeles, Cal.	319,198	M											
Oakland, Cal.	150,174												
Pomona, Cal.	10,207	P	12.00	3.00	3.00		6.00	24.00	2,800	1,900	22	10	No
Sacramento, Cal.	44,696	M	12.00						12,800				No
San Diego, Cal.	39,578	M							12,681	12,681	10	10	Yes
San Francisco, Cal.	416,912	P	4.92	3.84	2.64	0.60	24.00	36.00	61,721	17,923	33	16	No
Stockton, Cal.	23,253	P	8.40	1.80	1.80		9.00	21.00	5,500	570	25	10	No
Colorado Springs, Col.	29,078	M	12.00	1.00	2.00		8.00	23.00	11,858	213	15	8	No
Denver, Col	213,381	P							43,819	330			Yes
Bridgeport, Conn	102,054												
Bristol, Conn.	13,502	P	6.00	3.00	3.00		4.00		1,848	1,351	18	5½	No
Hartford, Conn.	98,915	M											
Manchester, Conn.	13,641	P	8.00	3.00	3.00		6.00	20.00	425				No
Meriden, Conn.	32,066	M	5.00	2.00	3.00		5.00	15.00	4,500	618	15	10	No
New Britain, Conn.	43,916	M							4,722	4,651			
New Haven, Conn.	133,605	P	5.00	3.00	3.00		6.80	17.80		2,500	18	10	Yes

CITY	POPULATION, 1910	OWNERSHIP, WHETHER MUNICIPAL OR PRIVATE	SCHEDULE OF WATER RATES						NUMBER OF CONSUMERS	NUMBER OF METERS	METER RATE PER 1000 GALLONS		IS WATER TREATED
			House use 6 rooms	Bath	Closet	Wash stand and laundry tubs	Sprinkling 40 feet with privilege of sprinkling roadway	Total			Maximum	Minimum	
New London, Conn	19,659	M	4.50	2.00	2.00		5.75		4,197	825	16	6	No
Stamford, Conn	28,836	P	5.00	4.00	5.00				3,800	2,200	20	20	No
Wilmington, Del	87,411	M	5.00	3.00	2.00	1.00	7.00	18.00	19,331	7,574	10	5	Yes
Washington, D. C	331,069	M							67,790	31,103	8	5	Yes
Jacksonville, Fla	57,699	M							9,270	7,368	10	5	No
Tampa, Fla	37,782	P	8.00	5.00	4.00		8.00	25.00	6,495	1,383	22	12	No
Athens, Ga	14,193	M							1,502	1,440	20	10	Yes
Atlanta, Ga	154,839	M			(All metered)				25,434	24,670	10	7	Yes
Macon, Ga	40,655	M	6.50	5.00	5.00		12.00	28.50	5,682	2,600	20	8	Yes
Savannah, Ga	65,064	M											
Boise, Idaho	17,358												
Alton, Ill	17,528												
Aurora, Ill	29,807	M			(All metered)				5,802	5,756	40¾	4	No
Belleville, Ill	21,122												
Bloomington, Ill	25,768												
Cairo, Ill	14,548	P	6.00	3.50	3.25		2.40	15.15	3,300	218	17	7	Yes
Champaign, Ill	20,666	P	6.00				8.00		4,120	3,700	25	6	Yes
Chicago, Ill	2,185,283	M											
Danville, Ill	27,871												
Decatur, Ill	31,140	M			(All metered)				5,300	5,492	20	5	Yes
Dixon, Ill	7,216	P	5.00	3.00	3.00		4.50	15.50	1,500	300	32	6	No
Elgin, Ill	25,976	M			(All metered)				5,051				No
Freeport, Ill	17,567	P	5.50						3,484	2,600	33	6	Yes
Kankakee, Ill	13,986	P	5.00	3.00	2.50	2.00	4.00	16.50	3,292	277	25	10	Yes
Lincoln, Ill	10,892	P	5.75	4.00	3.00	3.50	5.00	21.25	1,260	541	40	8	No

Oak Park, Ill.	19,444	M			(All metered)				5,043	5,043	...	...	...
Peoria, Ill.	66,950	P	6.00	3.00	3.00	...	5.00	17.00	10,700	365	20	06	No
Quincy, Ill.	36,587	P	6.00	4.75	5.00	0.50	8.80	25.05	5,650	3,500	45	06	Yes
Rock Island, Ill.	24,335	...	...	...	...	...	...	...	...	...	...	...	...
Rockford, Ill.	45,401	M	5.00	2.00	2.50	...	5.00	14.50	8,773	8,116	16	12	No
Springfield, Ill.	51,678	...	...	...	...	...	...	...	...	...	...	...	...
Streator, Ill.	14,253	P	7.75	3.50	2.50	...	12.50	26.25	3,450	350	50	08	Yes
Anderson, Ind.	22,476	M	4.00	2.50	2.50	2.50	4.40	15.90	2,610	383	12	04½	Yes
Brazil, Ind.	9,340	M			(All metered)				850	820	26	06	No
East Chicago, Ind.	19,098	P	...	...	...	...	...	...	...	...	...	...	...
Elkhart, Ind.	19,282	P	4.00	2.50	2.50	1.50	4.00	14.50	3,979	3,070	12	08	No
Evansville, Ind.	69,6.7	M	5.00	2.00	4.00	2.00	1.50	14.50	8,600	43	20	04½	Yes
Fort Wayne, Ind.	63,933	M	...	...	...	...	...	...	13,500	1,250	10	02½	No
Hammond, Ind.	20,925	M	12.00	...	...	...	2.00	14.00	5,000	700	12	03	No
Indianapolis, Ind.	233,650	P	5.00	3.00	3.00	...	6.00	17.00	...	...	18	04½	Yes
Jeffersonville, Ind.	10,412	P	6.00	5.00	5.00	4.00	7.00	27.00	1,100	102	40	15	No
Kokomo, Ind.	17,010	P	4.90	2.80	2.80	2.10	4.90	17.50	3,953	271	25	08	No
LaFayette, Ind.	20,081	...	...	...	...	...	...	...	...	...	...	...	...
Logansport, Ind.	19,050	M	...	...	...	...	...	...	3,500	2	...	...	No
Marion, Ind.	19,359	M	4.44	2.22	2.78	...	4.20	13.64	3,680	784	15	06	No
Mishawaka, Ind.	11,886	M	2.00	2.00	3.00	3.00	3.00	13.00	1,500	200	12	05	No
Muncie, Ind.	24,005	P	...	...	...	...	...	...	...	...	...	...	...
New Castle, Ind.	9,446	M	5.00	2.50	1.50	1.50	3.00	13.50	2,380	155	15	06	No
Richmond, Ind.	22,324	P	6.00	2.50	3.00	1.00	3.42	15.92	4,811	3,041	25	06	Yes
South Bend, Ind.	53,684	M	4.50	3.00	2.00	1.50	3.80	14.80	11,000	2,500	12	08	No
Terre Haute, Ind.	58,157	P	5.00	3.00	3.00	...	5.50	16.50	5,960	2,093	30	08	Yes
Vincennes, Ind.	14,895	P	5.10	3.50	5.00	2.00	7.00	22.60	1,600	235	50	15	Yes
Burlington, Iowa	24,324	P	6.00	5.00	5.00	...	...	16.00	4,178	200	25	10	Yes
Clinton, Iowa	25,577	P	6.00	5.00	3.00	...	5.00	19.00	3,994	2,122	30	06	Yes
Council Bluffs, Iowa	29,292	M	7.75	3.00	3.00	1.00	9.00	23.75	5,500	2,800	35	08	Yes
Davenport, Iowa	43,028	P	6.00	3.50	4.50	...	4.50	18.50	8,800	5,800	33	10	Yes
Des Moines, Iowa	86,368	P	4.00	3.00	3.00	...	7.50	17.50	15,004	14,553	30	10	Yes
Dubuque, Iowa	38,494	M	...	...	...	...	...	...	3,700	3,900	...	...	No
Iowa City, Iowa	10,091	P	5.00	3.00	3.00	1.00	10.00	22.00	1,415	117	40	08	Yes
Keokuk, Iowa	14,008	P	6.60	4.00	3.50	...	6.00	20.10	2,441	1,575	40	09	Yes
Muscatine, Iowa	16,178	M	6.00	3.00	4.00	2.00	7.00	21.00	2,800	250	35	06	No

CITY	POPULATION, 1910	OWNERSHIP, WHETHER MUNICIPAL OR PRIVATE	SCHEDULE OF WATER RATES						NUMBER OF CONSUMERS	NUMBER OF METERS	METER RATE PER 1000 GALLONS		IS WATER TREATED
			House use 6 rooms	Bath	Closet	Wash stand and laundry tubs	Sprinkling 40 feet with privilege of sprinkling roadway	Total			Maximum	Minimum	
Ottumwa, Iowa	22,012	M	8.00	5.00	5.00	....	5.00	23.00	1,600	850	30	10	Yes
Sioux City, Iowa	47,828	M			(All metered)				6,200	6,221	25	10	No
Waterloo, Iowa	26,693	M	5.00	3.00	3.00	....	....	16.00	4,080	3,843	33	10	No
Atchison, Kansas	16,429	P	5.60	3.50	3.70	....	4.00	16.80	2,405	340	30	10	Yes
Fort Scott, Kansas	10,463	M	8.80	3.40	2.20	....	6.60	21.00	2,000	1,200	27½	07	No
Hutchinson, Kansas	16,364	P	....	....	....	....	....	....	4,000	3,000	30	10	No
Kansas City, Kansas	82,331	....	....	....	....	....	....	....	....	....	....	....	....
Lawrence, Kansas	12,374	P	6.00	2.00	2.00	2.00	8.00	20.00	2,087	75%	25	15	No
Parsons, Kansas	12,463	P	8.00	2.00	3.00	....	7.50	20.50	2,424	1,800	30	10	Yes
Pittsburg, Kansas	14,755	M	8.00	2.00	2.00	....	....	12.00	3,817	962	50	11	No
Frankfort, Ky	10,465	P	6.00	2.50	3.00	1.00	6.50	19.00	....	....	15	06	....
Henderson, Ky	11,452	M	5.00	2.00	3.00	....	5.00	15.00	3,150	80	20	08	No
Lexington, Ky	35,099	P			(All metered)				5,130	5,130	....	....	Yes
Louisville, Ky	223,928	M	6.00	2.50	3.00	1.00	6.50	19.00	33,733	3,022	15	06	Yes
Newport, Ky	30,309	M	....	....	....	....	....	....	....	....	....	....	....
Owensboro, Ky	16,011	M	....	....	....	....	....	....	....	....	....	....	....
Alexandria, La	11,213	M			(All metered)				1,200	1,200	....	....	No
Baton Rouge, La	14,897	P	....	....	....	....	....	....	2,500	1,350	35	10	No
Lake Charles, La	11,449	P	13.20	....	6.00	....	21.00	40.20	625	7	50	25	No
New Orleans, La	339,075	M			(All metered)				33,959	33,873	10	07	Yes
Portland, Maine	58,571	M	....	....	....	....	....	....	....	....	....	....	....
Baltimore, Md	558,485	P	....	....	....	....	....	....	....	....	....	....	....
Cumberland, Md	21,839	M	6.00	3.00	2.00	....	3.00	14.00	4,285	4	....	....	Yes
Hagerstown, Md	16,507	P	10.00	....	....	....	2.00	12.00	4,120	625	....	....	Yes
Arlington, Mass	11,187	M			(All metered)				2,366	2,366	20	13	....

Beverly, Mass.	18,650	M	5.00	2.50	2.50	....	3.00	13.00	4,405	726	20	20	No
Boston, Mass.	670,585	M	....	....	....	....	....	....	95,037	25,975	....	....	No
Brockton, Mass.	56,878	M			(All m	etered)			8,695	8,710	22	13	No
Cambridge, Mass.	104,839	M	4.00	3.00	2.00	2.00	5.00	16.00	16,194	5,045	20	10	No
Chelsea, Mass.	32,452	M	7.00	....	5.00	....	5.00	17.00	4,682	4,617	16	10	No
Clinton, Mass.	13,075	M	5.00	4.00	4.00	2.00	....	15.00	1,856	1,680	33	08	No
Concord, Mass.	6,421	M	6.00	4.00	5.00	3.00	5.00	23.00	1,214	32	26	10	No
Everett, Mass.	33,484	M	7.00	....	5.00	....	5.00	17.00	5,660	1,900	16	10	No
Fall River, Mass.	119,295	M	5.00	2.50	5.00	2.50	6.00	21.00	8,988	8,988	28	10	No
Framingham, Mass.	12,948	M			(All m	etered)			2,058	2,063	33	12	No
Gardner, Mass.	14,699	M	10.00	3.00	3.00	....	5.00	21.00	1,863	129	30	15	No
Gloucester, Mass.	24,398	M	6.00	6.00	6.00	3.00	5.00	26.00	4,771	399	30	15	No
Haverhill, Mass.	44,115	M	4.50	3.00	4.00	....	5.00	16.50	7,054	1,543	21	10	No
Lawrence, Mass.	85,892	M	....	....	....	....	....	....	....	....	....	....	....
Lowell, Mass.	106,294	M	6.00	3.00	4.00	2.00	3.00	18.00	12,952	10,541	18	13	No
Lynn, Mass.	89,336	M	5.00	3.00	3.00	2.00	4.00	17.00	15,962	7,141	20	....	No
Malden, Mass.	44,404	M	....	....	....	....	....	....	7,730	7,400	21	13	No
New Bedford, Mass.	96,652	M	2.50	2.50	2.50	2.50	2.50	12.50	13,643	9,998	15	02½	No
Newburyport, Mass.	14,949	M	6.00	4.00	4.00	2.00	5.00	21.00	3,485	110	28	14	Yes
Northampton, Mass.	19,431	M	6.00	2.00	2.00	....	3.00	13.00	3,300	131	10	....	No
Somerville, Mass.	77,236	M	....	....	....	....	....	....	12,596	7,164	16	16	No
Springfield, Mass.	88,926	M			(All m	etered)			13,407	....	29	06	Yes
Taunton, Mass.	34,259	M	5.00	3.00	5.00	2.00	5.00	20.00	5,420	2,938	25	09	No
Waltham, Mass.	27,834	M	5.00	2.00	3.00	2.00	6.00	18.00	3,996	633	26	16	No
Winthrop, Mass.	10,132	M			(All m	etered)			2,655	2,655	19	....	No
Worcester, Mass.	145,986	.....	....	....	....	....	....	....	....	....	....	....	....
Adrian, Mich.	10,763	P	5.00	3.00	4.00	1.50	7.00	20.50	1,800	500	20	10	Yes
Alpena, Mich.	12,706	M	4.00	2.00	2.00	....	3.00	11.00	2,711	64	10	04	Yes
Ann Arbor, Mich.	14,817	P	3.50	3.00	3.00	....	5.00	14.50	3,879	350	20	08	Yes
Battle Creek, Mich.	25,267	M	4.00	2.00	3.00	....	4.00	13.00	5,920	5,769	13	06	No
Bay City, Mich.	45,166	M	....	....	....	....	....	....	5,620	2,212	....	....	No
Detroit, Mich.	465,766	M	3.20	1.00	1.60	0.50	1.40	7.70	103,487	10,807	05	03	No
Escanaba, Mich.	13,194	P	1.50	1.00	1.00	0.50	6.00	10.00	2,000	400	30	10	Yes
Flint, Mich.	38,550	M	....	....	....	....	....	....	5,306	2,149	20	05	No
Grand Rapids, Mich.	112,571	.....	....	....	....	....	....	....	....	....	....	....	....
Holland, Mich.	10,490				(All m	etered)			2,229	2,193	....	....	No

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			House use 6 rooms	Bath	Closet	Wash stand and laundry tubs	Sprinkling 40 feet with privilege of sprinkling road-way	Total			Maximum	Minimum	
Ishpeming, Mich.	12,448	M	4.50	1.50	1.50	....	1.25	8.75	2,018	1,577	10	04	No
Jackson, Mich.	31,433	M			(All m	etered)			6,200	6,175	....	....	No
Kalamazoo, Mich.	39,437	M	....	....	....	....	....	....	....	....	....	....	....
Lansing, Mich.	31,229	M	....	....	....	....	....	....	....	....	....	....	....
Ludington, Mich.	9,132	M	6.00	2.00	3.00	1.50	6.00	18.50	1,800	1,600	10	10	No
Marquette, Mich.	11,503	M	8.00	5.00	3.00	....	7.00	23.00	2,050	1,010	13	04	Yes
Menominee, Mich.	10,507	.....	....	....	....	....	....	....	....	....	....	....	....
Owosso, Mich.	9,639	M			(All m	etered)			1,675	1,627	....	....	No
Saginaw, Mich.	50,510	M	6.00	2.50	3.00	0.50	3.00	15.00	7,873	340	11	04	No
Traverse City, Mich.	12,115	M	....	....	....	....	....	....	2,100	781	....	....	No
Duluth, Minn.	78,466	M	6.50	2.00	2.00	2.00	5.00	17.50	11,588	6,552	23	....	Yes
Minneapolis, Minn.	301,408	M	....	....	....	....	....	....	48,000	42,000	....	04	....
St. Paul, Minn.	214,744	M	3.80	2.00	3.00	....	....	8.80	33,129	19,584	08	....	No
Stillwater, Minn.	10,198	M	7.00	3.00	4.00	....	2.00	16.00	1,000	None	....	....	No
Virginia, Minn.	10,473	P	....	....	....	....	....	16.00	1,800	200	46	16	No
Jackson, Miss.	21,262	M	6.00	6.00	5.00	4.50	7.00	28.50	4,100	1,600	26	08	No
Meridian, Miss.	23,285	M	....	....	....	....	....	....	3,663	2,200	....	....	Yes
Independence, Mo.	9,859	P	7.00	2.00	2.25	....	5.60	16.85	1,768	1,396	35	25	Yes
Kansas City, Mo.	248,381	M	5.50	3.50	3.50	....	7.50	20.00	53,000	25,269	25	07	Yes
Moberly, Mo.	10,923	M	6.00	4.00	3.00	....	....	13.00	1,295	1,170	50	20	No
St. Joseph, Mo.	77,403	P	4.50	3.00	3.00	....	4.00	14.50	12,648	2,187	30	06	Yes
St. Louis, Mo.	687,029	M	4.00	2.00	3.00	....	1.75	10.75	109,624	7,366	25	08	Yes
Sedalia, Mo.	17,822	P	6.00	5.00	5.00	....	Meter only	16.00	1,993	705	30	10	Yes
Springfield, Mo.	35,201	P	8.00	2.00	2.00	....	5.00	17.00	6,900	1,300	25	10	Yes

Anaconda, Mont	10,134	P	....	....	....	....	....	....	1,700	0	....	....	No
Billings, Mont	10,031	P	10.00	4.00	4.00	3.00	6.50	27.50	2,100	360	33	13	No
Butte, Mont	39,165	P	....	....	....	....	....	....	9,484	573	....	....	No
Missoula, Mont	12,869	M	24.00	6.00	6.00	....	Permit only	36.00	2,450	150	34	14	No
Lincoln, Neb	43,973	.....	....	....	....	....	....	....	....	....	....	....	....
Omaha, Neb	124,096	M	....	....	....	....	....	....	23,807	20,593	....	....	Yes
Reno, Nevada	10,867	.....	....	....	....	....	....	....	....	....	....	....	....
Concord, N. H	21,497	M	5.00	3.00	3.00	1.00	3.00	15.00	3,752	2,243	20	06	No
Dover, N. H	13,247	M	6.00	5.00	5.00	....	5.00	21.00	1,931	1,438	30	20	Yes
Keene, N. H	10.068	M	5.50	4.00	4.00	....	4.00	17.50	2,127	190	26	02	No
Manchester, N. H	70,063	M	4.00	1.75	2.00	1.00	5.00	13.75	7,352	5,689	13	09	No
Bridgeton, N. J	14,209	M	5.00	3.00	2.00	2.00	3.00	15.00	2,983	0	15	04	Yes
Camden, N. J	94,538	M	5.00	3.00	3.00	2.00	3.00	16.00	20,471	1,131	20	10	No
Garfield, N. J	10,213	M			(All m	etered)			1,425	1.300	40	14	No
Newark, N. J	347,469	M	6.25	5.00	2.50	....	5.00]	18.75	44,772	24,729	40	14	No
Passaic, N. J	54,773	P	12.00	....	....	....	8.00	20.00	7,207	3,782	30	10	Yes
Paterson, N. J	125,600	P	....	....	....	....	....	....	15,500	8,438	30	10	Yes
Perth Amboy, N. J	32,121	M	6.00	4.00	3.00	1.00	4.00	18.00	4,000	1,366	15	05	No
Phillipsburg, N. J	13,903	P	....	....	....	....	....	....	1,550	66	....	....	Yes
Rahway, N. J	9,337	M	6.00	5.00	3.00	....	4.00	18.00	1,789	180	20	05	Yes
West Orange, N. J	10,980	P			(All m	etered)			1,801	1,671	26	20	....
Albuquerque, N. M	11,020	P			(All m	etered)			2,478	2,478	35	20	No
Las Vegas, N. M	3,179	P	....	8.00	....	....	12.50	....	1,600	12	....	....	No
Auburn, N. Y	34,668	M	4.25	2.20	2.20	2.20	3.60	14.45	8,200	702	16	04	Yes
Binghamton, N. Y	48,443	M	3.00	3.00	3.00	3.00	3.00	15.00	10,417	4,000	12	06	Yes
Buffalo, N. Y	423,715	M	3.00	1.50	1.50	....	2.99	8.99	77,260	3,459	06	02	No
Cortland, N. Y	11,504	M	6.00	3.00	4.00	4.00	7.50	24.50	2,400	1,640	40	20	No
Dunkirk, N. Y	17,221	M			(All m	etered)			3,195	3,188	07	03	No
Elmira, N. Y	37,176	P	....	....	....	....	....	....	7,712	3,559	....	....	Yes
Geneva, N. Y	12,446	M			(All m	etered)			3,090	2,950	20	06	Yes
Glens Falls, N. Y	15,243	M	5.00	3.00	4.00	....	3.00	15.00	3,372	39	16	03	No
Gloversville, N. Y	20,642	M	4.00	2.00	2.00	....	Meter only	8.00	3,877	3,630	16	03	No
Jamestown, N. Y	31,297	M	Meter	ed when	Flat Rate	Exceeds		8.00	7,500	6,000	20	20	No
Kingston, N. Y	25,908	M	4.00	4.00	3.00	1.50	2.00	14.50	5,275	125	16	06	Yes

CITY	POPULATION, 1910	OWNERSHIP, WHETHER MUNICIPAL OR PRIVATE	SCHEDULE OF WATER RATES						NUMBER OF CONSUMERS	NUMBER OF METERS	METER RATE PER 1000 GALLONS		IS WATER TREATED
			House use 6 rooms	Bath	Closet	Wash stand and laundry tubs	Sprinkling 40 feet with privilege of sprinkling roadway	Total			Maximum	Minimum	
Little Falls, N. Y.	12,273	M	3.00	2.50	2.00	2.00	2.50	12.00	2,102	331	21	03	No
Mount Vernon, N. Y.	30,919	P			(All metered)				6,021	5,000	40	13	Yes
New Rochelle, N. Y.	28,867	P			(All metered)				6,230	6,164	30	20	No
New York City, N. Y.	4,766,883	M	....	....	....	....	....	....	....	....	....	....	....
Newburgh, N. Y.	27,805	M	8.00	0.50	0.50	....	5.00	14.00	4,667	3	10	03	No
Niagara Falls, N. Y.	30,445	M	....	....	....	....	....	....	....	....	....	....	Yes
N. Tonawanda, N. Y.	11,955	M	6.00	2.00	3.00	1.50	2.80	15.30	2,400	50	....	....	No
Ogdensburg, N. Y.	15,933	M	8.00	3.00	3.00	....	6.00	20.00	3,379	10	....	....	Yes
Olean, N. Y.	14,743	M			(All metered)				2,877	2,877	13	05	No
Ossining, N. Y.	11,480	M	8.00	Meter	Meter	2.25	Meter	10.25	1,616	1,385	20	12	No
Peekskill, N. Y.	15,245	M			(All metered)				2,500	2,100	13	06	Yes
Poughkeepsie, N. Y.	27,936	M	....	....	....	....	....	....	....	....	....	....	....
Rensselaer, N. Y.	10,711	P	6.00	3.00	3.00	2.75	5.00	19.75	1,850	140	20	10	Yes
Saratoga Springs, N. Y.	12,693	M			(All metered)				....	....	10	10	....
Schenectady, N. Y.	72,826	M	4.00	1.50	1.50	....	2.00	9.00	12,000	240	16	5	No
Troy, N. Y.	76,813	M	6.40	2.00	3.00	....	8.00	19.40	11,462	400	5	5	No
Utica, N. Y.	74,419	P			(All metered)				12,588	12,411	30	6	....
Waterford, N. Y.	3,245	P			(All metered)				....	....	20	8	No
Watertown, N. Y.	26,730	M	4.00	1.00	2.00	....	3.00	10.00	5,000	690	20	3	Yes
White Plains, N. Y.	15,949	M			(All metered)				3,250	3,213	31	20	No
Yonkers, N. Y.	79,803	M			(All metered)				8,697	....	16	8	Yes
Asheville, N. C.	18,762	M	....	....	....	....	....	....	3,500	2,500	....	....	....
Durham, N. C.	18,241	P	....	....	....	....	....	....	3,150	1,350	25	18	Yes
Wilmington, N. C.	25,748	M	....	....	....	....	....	....	3,127	1,390	....	....	Yes
Grand Forks, N. D.	12,578	M	....	....	....	....	....	....	2,250	....	50	12	Yes

Canton, Ohio	50,217	M	7.00	...	...	...	1.00	...	10,997	926	7	7	No
Cincinnati, Ohio	363,591	M	4.16	2.38	1.42	0.86	5.15	13.97	53,560	25,489	10	10	Yes
Columbus, Ohio	181,511	M	...	...	...	...	...	...	28,736	26,769	12	10	Yes
Cleveland, Ohio	560,663	M	...	...	...	...	...	...	...	...	...	...	...
Elyria, Ohio	14,825	M			(All metered)				3,571	3,571	20	8	No
Fremont, Ohio	10,000	M			(All metered)				1,850	1,730	...	...	No
Marion, Ohio	18,232	P			(All metered)				2,150	2,100	25	6½	No
Massillon, Ohio	13,879	P	5.20	2.50	2.70	...	4.95	15.35	3,262	1,000	20	12	No
Middletown, Ohio	13,152	M	4.40	2.75	...	1.10	4.00	...	2,720	1,450	14	8	No
Newark, Ohio	25,404	M	6.75	3.50	1.50	...	6.00	17.75	3,500	2,300	18	10	No
Piqua, Ohio	13,388	M	4.00	2.00	2.00	...	3.00	11.00	1,950	None	...	...	No
Springfield, Ohio	46,921	M	...	...	...	...	...	...	8,600	2,000	...	...	No
Tiffin, Ohio	11,894	P	5.00	3.00	3.50	...	4.00	15.50	...	...	22	12	...
Warren, Ohio	11,081	P	...	...	...	...	...	...	3,008	2,063	24	10	Yes
Youngstown, Ohio	79,066	M	5.28	2.64	2.64	...	3.96	...	14,500	4,161	16	8	Yes
Zanesville, Ohio	28,026	M	5.30	1.00	3.00	...	2.00	11.30	8,000	50	6	6	Yes
Guthrie, Okla	11,654	M	5.00	3.00	6.00	...	4.00	18.00	1,300	850	50	10	Yes
Muskogee, Okla	25,278	M	...	...	...	...	...	...	4,700	3,000	16	9	Yes
Oklahoma City, Okla	64,205	M	13.60	...	...	...	6.00	19.60	10,604	7,350	20	10	Yes
Shawnee, Okla	12,474	M	...	...	...	...	...	...	1,900	1,400	...	...	Yes
Portland, Oregon	207,214	M	6.00	1.20	1.80	...	7.00	16.00	54,481	13,221	22¼	13	No
Allentown, Pa	51,913	M	7.50	2.50	4.00	1.00	8.50	23.50	13,179	11,730	53	08	No
Altoona, Pa	52,127	M	4.80	3.00	3.00	1.00	...	...	12,993	616	33	4	No
Bradford, Pa	14,544	...	3.80	0.80	1.20	...	3.00	8.80	3,883	116	6	4	No
Chester, Pa	...	...	...	...	...	...	...	...	...	...	...	...	...
Erie, Pa	66,525	M	4.00	3.00	3.00	3.00	3.50	16.50	14,551	406	20	4	...
Harrisburg, Pa	64,186	...	...	...	...	...	...	...	...	...	...	...	...
Wilkesbarre, Pa	67,105	...	...	...	...	...	...	...	...	...	...	...	...
Johnstown, Pa	55,482	P	9.75	3.00	3.00	2.00	5.00	22.75	10,250	1,511	40	5	No
Lebanon, Pa	19,240	M	5.00	2.00	2.50	1.00	7.00	17.50	4,730	117	20	4½	No
McKeesport, Pa	42,694	M	8.00	7.50	7.50	...	8.00	31.00	6,039	3,606	26	9	...
Meadville, Pa	12,780	M	...	...	...	...	...	...	2,873	1,764	...	...	...
Philadelphia, Pa	1,549,008	M	5.00	3.00	1.00	2.00	8.00	19.00	360,000	4,850	4	4	Yes
Pittsburgh, Pa	533,905	...	...	...	...	...	...	...	...	...	...	...	...
Reading, Pa	96,071	M	4.50	2.50	2.00	...	7.00	16.00	22,792	4,177	40	29	Yes
Sharon, Pa	15,270	P	6.00	5.00	5.00	4.00	10.00	30.00	4,037	1,354	35	10	Yes

CITY	POPULATION, 1910	OWNERSHIP, WHETHER MUNICIPAL OR PRIVATE	SCHEDULE OF WATER RATES						NUMBER OF CONSUMERS	NUMBER OF METERS	METER RATE PER 1000 GALLONS		IS WATER TREATED
			House use 6 rooms	Bath	Closet	Wash stand and laundry tubs	Sprinkling 40 feet with privilege of sprinkling roadway	Total			Maximum	Minimum	
Shenandoah, Pa.	25,774	M	6.00	2.50	5.00	...	1.00	14.50	3,800	25	20	8	No
Sunbury, Pa.	13,770	...	...	...	...	...	...	...	3,200	50	...	...	...
Wilkinsburg, Pa.	18,924	P			(All metered)				12,834	...	...	...	Yes
Williamsport, Pa.	31,860	P	5.70	4.75	1.90	1.90	5.70	19.95	6,925	115	10	...	No
Pawtucket, R. I.	...	M	...	...	...	...	...	...	11,266	9,893	30	6	...
Providence, R. I.	224,326	M	6.00	5.00	5.00	5.00	5.00	26.00	29,261	26,298	20	10	Yes
Charleston, S. C.	58,833	P	...	...	...	...	...	...	4,500	250	...	...	Yes
Columbia, S. C.	26,319	M			(All metered)				3,120	3,120	15	8	Yes
Jackson, Tenn.	15,779	M	7.00	3.00	6.00	...	9.00	25.00	...	...	15	5	No
Memphis, Tenn.	131,105	M	4.50	3.75	3.75	...	7.50	19.50	22,831	12,451	24	10	No
Nashville, Tenn.	110,364	M	9.00	4.00	5.00	...	17.35	...	16,729	13,320	20	8	...
Denison, Texas	13,632	M	...	...	...	...	...	...	3,000	2,600	50	7	...
El Paso, Texas	39,279	M	...	...	...	...	...	...	5,960	4,673	...	...	...
Galveston, Texas	36,981	M			(All metered)				6,041	6,041	26	9	No
Laredo, Texas	14,855	P	...	...	...	...	...	...	1,235	300	16	13	Yes
San Antonio, Texas	96,614	P	5.00	4.50	3.00	...	...	...	20,000	4,542	15	9	No
Temple, Texas	10,993	M	15.00	6.00	6.00	...	...	...	1,900	855	25	10	Yes
Waco, Texas	26,425	M	7.00	5.00	3.00	6.00	9.60	30.60	8,758	650	30	15	No
Ogden, Utah	25,580	M	6.50	1.00	1.50	1.50	22.78	...	5,600	325	20	05	...
Salt Lake City, Utah	92,777	M	4.75	1.00	2.00	3.00	13.35	28.10	17,564	800	7	06	No
Burlington, Vt.	20,468	M	6.00	4.00	4.00	...	8.00	22.00	4,009	3,503	20	08	Yes
Rutland, Vt.	13,546	M	5.00	2.00	2.00	...	...	...	2,879	150	8	04	No
Lynchburg, Va.	29,494	M	6.00	3.00	3.00	...	3.00	...	5,800	475	20	03	No
Richmond, Va.	127,628	M	4.00	3.50	3.00	...	8.80	19.30	26,000	18,739	14	05	Yes
Roanoke, Va.	34,874	P	9.00	3.00	3.00	5.00	5.00	25.00	6,898	3,483	25	15	No

North Yakima ,Wash.........	14,082	P	....	....	....	....	....	....	3,085	3,226	20	07	....
Seattle, Wash................	237,194	M	7.80	2.40	2.40	....	....	....	41,163	31,890	6	05	No
Spokane, Wash...............	104,402	M	12.00	2.40	2.40	....	2.40	....	20,606	7,690	10	....	No
Tacoma, Wash................	83,743	M	....	....	....	....	....	....	13,919	1,357	....	....	No
Walla Walla, Wash...........	19,364	M	12.00	3.00	3.00	....	11.10	....	3,659	182	20	08	No
Ashland, Wis..................	11,594	P	9.00	5.00	4.00	....	5.00	23.00	1,978	543	....	....	Yes
Beloit, Wis....................	15,125	P	....	....	....	....	....	....	2,170	1,765	10	02	No
Green Bay, Wis..............	25,236	P			(All m	etered)			3,623	....	21	13	No
La Crosse, Wis................	30,417	M	5.00	2.00	3.00	2.00	5.00	17.00	5,300	2,470	20	04	No
Madison, Wis.................	25,531	M			(All m	etered)			5,504	5,453	....	....	No
Marinette, Wis................	14,610	P	6.00	3.00	2.50	....	5.00	....	2,798	97	30	15	Yes
Milwaukee, Wis..............	373,857	M	6.00	3.00	2.00	1.00 1.00	10.00 6.25	....	58,357	57,657	8	06	....
Racine, Wis....................	38,002	P	4.80	3.60	4.00	....	4.80	17.20	7,662	5,574	28½	06	No
Superior, Wis.................	40,384	P	5.89	3.68	4.05	2.94	....	....	5,056	4,408	40	8.7	Yes
Cheyenne, Wyoming.........	11,320	M	6.00	5.00	5.00	....	5.00	....	2,000	1	6	02	....

	TOTAL FOR FAMILY USE, HOUSE OF 6 ROOMS, INCLUDING BATH, CLOSET, SPRINKLING ROADWAY AND LAWN NOT OVER 40 FEET FRONTAGE	METER RATES	
		Maximum per 1000 gallons	Minimum per 1000 gallons
Rates in 307 cities where water is supplied by private company or municipal plant..	18.08	0.23	0.09
Rate in cities where water is supplied by private company.........................	19.89	0.28	0.10½
Rate in cities where treated water is supplied by private company..................	18.53	0.29⅘	0.09$\frac{9}{10}$
Rate in cities having population between 100,000 and 300,000.......................	18.40	0.20	0.08½
Rate in cities where treated water is supplied either by private company or municipal plant...	18.17	0.23	0.09
Rate in cities where water is being supplied by municipal plant.....................	17.49	0.18	0.09
Rate in cities supplied with untreated water..	17.95	0.20	0.08¾

Information relative to distribution system

CITY	POPULATION 1910	MILEAGE OF PIPE IN SYSTEM 1913	PERCENTAGE VARIOUS SIZES OF PIPE IN SYSTEM					NUMBER FIRE HYDRANTS IN SYSTEM	PUBLIC DRINKING FOUNTAINS	AVERAGE NUMBER HYDRANTS PER MILE OF PIPE	NUMBER OF TAPS IN SERVICE	PERCENTAGE OF TOTAL POPULATION SUPPLIED	AVERAGE NUMBER TAPS PER MILE OF PIPE	PERCENTAGE OF TOTAL PUMPAGE FURNISHED AS "FREE WATER" TO CITY
			4″ or smaller	6″	8″	10″	12″ and larger							
Anniston, Ala......	12,794	26.0+	23.0	20.0	5.0	3.0	49.0	130	1	5	1,600	60	60	No estimate
Mobile, Ala.........	51,521	157.6	24.8	50.7	6.2	2.3	16.0	974	41	6	11,769	90	73	14 per cent
Phoenix, Ariz......	11,134	67.0	42.5	45.8	5.8	3.5	2.4	280	10	4	4,100	98	61	20 per cent
Pine Bluffs, Ark ...	15,102	38.0	12.0	52.4	15.3	7.5	12.8	312	5	8	2,077	60	54	Very small percentage
Sacramento, Cal....	44,696	40.0	6.0	51.9	5.3	8.8	28.0	560	25	....	12,800	75	....	All city service; no estimate
San Francisco, Cal.	416,912	581.0	38.6	18.6	23.6	0.2	19.0	4,421	7	7	61,721	99	106	No free service
Colorado Springs, Col..............	29,078	143.0	38.5	22.9	6.9	5.5	26.2	504	31	3	11,858	98	83	40 per cent
Denver, Col........	213,381	516.0	8.3	41.6	6.8	3.0	40.3	3,272	69	6	43,819	99	85	8 per cent
Bristol, Conn	13,502	40.0	30.5	30.7	14.0	7.8	17.0	130	1	3	1,848	80	46	0.5 of 1 per cent
Hartford, Conn	98,915	180.0	8.8	46.6	11.9	4.8	27.9	1,367	14	7	13,278	....	73	No estimate
New Haven, Conn.	133,605	173.0	2.9	39.7	28.8	10.9	17.7	1,000	25	5	....	....	....	No estimate
Wilmington, Del ...	87,411	134.0	27.5	18.4	34.0	0.8	19.3	935	28	7	19,331	98	144	No estimate
Washington, D. C..	331,069	428.0	8.2	47.5	23.7	0.3	20.3	3,111	224	7	67,790	....	158	No estimate
Jacksonville, Fla...	57,699	60.0	2.3	67.6	12.5	8.8	8.8	700	30	11	9,270	70	154	No free service
Tampa, Fla........	37,782	60.0	15.1	40.4	20.8	10.8	12.9	603	8	10	6,495	75	108	No free service
Macon, Ga.........	40,665	75.0	15.5	48.4	6.9	7.1	22.1	497	16	6	5,370	75	71	No free service
Atlanta Ga.........	154,839	309.0	2.0	61.4	15.3	4.2	17.1	2,929	....	9	25,434	85	72	30 per cent
Freeport, Ill........	17,567	41.0	48.2	42.9	6.0	1.7	1.2	200	4	5	3,484	....	85	No estimate
Peoria, Ill..........	66,950	111.0	24.0	33.9	13.8	10.9	17.4	1,376	20	12	10,700	58	96	10 per cent
Springfield, Ill	51,678	74.0	18.0	63.5	None	0.3	18.2	863	32	11	6,049	48	81	No estimate
Aurora, Ill	29,807	79.0	8.5	80.8	4.4	1.5	4.8	609	4	7	5,802	75	73	20 to 25 per cent
Chicago, Ill	....	....	....	....	....	....	....	....	....	....	....	....	....	....

Decatur, Ill........	31,140	71.0	5.6	74.0	2.7	2.7	15.0	614	5	8	5,300	95	74	1 per cent
Elgin, Ill...........	25,976	58.0	3.5	69.2	14.4	3.6	9.3	483	5	8	5,051	82	87	No free service
Elkhart, Ind.......	19,282	49.0	3.3	74.0	7.5	4.2	11.0	343	8	7	3,979	70	81	No estimate
Indianapolis, Ind ..	233,650	349.0	6.0	49.0	21.0	4.0	20.0	2,971	....	8	30,753	68	88	....
Evansville, Ind	69,647	110.0	17.0	55.9	9.3	1.7	16.1	734	6	7	8,600	70	78	No estimate
Ft. Wayne, Ind	63,933	119.0	8.8	65.8	10.0	0.8	14.6	925	25	7	13,500	95	113	No estimate
La Fayette, Ind....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Marion, Ind........	19,359	41.0	14.8	76.3	3.0	4.2	1.7	346	18	8	3,680	75	89	No estimate
Terre Haute, Ind ..	58,157	89.0	7.7	28.8	40.9	3.2	19.4	1,078	22	12	5,960	60	67	No free service
Council Bluffs, Ia..	29,292	57.0	57.5	23.4	7.9	0.3	10.9	362	2	6	5,500	66	96	5 per cent
Iowa City, Iowa ...	10,091	21.0	27.7	58.5	8.5	3.8	1.5	208	3	9	1,415	75	67	2 per cent
Sioux City, Iowa...	47,828	76.0	4.9	54.5	18.5	3.8	18.3	476	10	6	6,200	....	81	All city service; no estimate
Atchison, Kan	16,429	32.0	39.3	20.7	17.1	12.5	10.4	182	(11 Horse troughs)	5	2,405	60	75	10 per cent
Pittsburg, Kan. ...	14,755	39.0	29.1	48.0	10.0	1.1	11.8	254	....	6	3,817	90	92	No free service
Frankfort, Ky	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Louisville, Ky	223,928	375.0	16.7	54.0	9.3	0.5	19.5	1,955	....	5	33,733	90	89	No estimate
Lexington, Ky......	35,099	75.0	25.8	46.8	13.1	5.5	8.8	605	8	8	5,130	70	68	2 per cent
New Orleans, La...	339,075	528.0	31.4	46.4	2.3	0.2	19.7	5,103	12	9	33,959	71	64	24.5 per cent
Portland, Me.......	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Baltimore, Md.	558,485	....	....	....	....	....	....	....	....	....	....	....	....	....
Beverly, Mass......	18,650	80.0	....	....	....	....	....	469	14	5	4,405	100	55	10 to 15 per cent
Boston, Mass.......	670,585	....	....	....	....	....	....	....	....	....	....	....	....	....
Cambridge, Mass...	104,839	136.0	....	....	....	....	....	1,125	30	8	16,194	100	119	32 per cent
Everett, Mass......	33,484	49.0	14.6	53.3	8.8	16.3	7.0	559	4	11	5,660	99	115	No estimate
Fall River, Mass...	119,295	118.0	....	40.9	27.1	8.4	23.6	1,408	21	12	8,988	99	76	28.3 per cent
Gloucester, Mass...	24,398	72.0	34.6	27.7	8.3	7.2	22.2	329	11	4	4,771	90	66	30 per cent
Lowell, Mass.......	106,294	150.0	4.6	59.3	19.0	4.1	13.0	1,283	28	8	12,952	100	86	No estimate
Lynn, Mass.	89,336	150.0	....	....	....	....	....	1,186	17	7	15,962	100	106	No estimate
Waltham, Mass.....	27,834	56.0	23.2	39.0	21.6	3.8	12.4	476	2	8	3,996	....	71	No estimate
Ann Arbor, Mich...	14,817	40.0	9.2	73.0	5.4	1.4	11.0	258	2	6	3,879	80	97	No free service
Bay City, Mich....	45,166	97.0	6.9	61.1	11.9	8.5	11.6	892	19	9	5,620	75	58	25 per cent
Detroit, Mich	465,766	840.0	19.2	47.8	14.7	5.4	12.9	5,849	123	7	103,487	99.9	123	8 per cent
Flint, Mich.........	38,550	60.0	32.9	32.2	12.1	....	22.8	342	....	5	5,306	....	88	No estimate

Information relative to distribution system—Continued

CITY	POPULATION 1910	MILEAGE OF PIPE IN SYSTEM 1913	PERCENTAGE VARIOUS SIZES OF PIPE IN SYSTEM					NUMBER FIRE HYDRANTS IN SYSTEM	PUBLIC DRINKING FOUNTAINS	AVERAGE NUMBER HYDRANTS PER MILE OF PIPE	NUMBER OF TAPS IN SERVICE	PERCENTAGE OF TOTAL POPULATION SUPPLIED	AVERAGE NUMBER TAPS PER MILE OF PIPE	PERCENTAGE OF TOTAL PUMPAGE FURNISHED AS "FREE WATER" TO CITY
			4" or smaller	6"	8"	10"	12" and larger							
Grand Rapids, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Jackson, Mich.	31,433	87.0	41.5	44.4	3.9	5.7	4.5	694	22	8	6,200	80	71	All city water free
Lansing, Mich.	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Saginaw, Mich	50,510	116.0	7.4	64.6	9.0	8.5	10.5	947	42 W. T.	8	7,873	53	68	No estimate
Traverse City, Mich.	12,115	28.0	8.8	72.1	4.7	5.3	9.1	262	5	9	2,100	66	75	No estimate
Duluth, Minn.	78,466	142.0	1.6	58.6	5.6	8.4	25.8	959	(17 H.T. 12)	6	11,588	75	82	No estimate
Minneapolis, Minn.	301,408	496.0	None	58.1	15.1	0.6	26.2	5,059	None	10	48,000	95	97	10 per cent
St. Paul, Minn.	214,744	360.0	3.7	64.9	1.4	None	30.0	3,293	....	9	33,129	....	92	No estimate
Stillwater, Minn.	10,198	13.0	4.0	51.1	34.3	2.4	8.2	151	(7 H.T. and 2)	11	1,000	33⅓	77	Small amount
Jackson, Miss.	21,262	32.0	4.6	49.9	2.3	21.8	21.4	510	12	16	4,100	90	128	3 per cent
Meridian, Miss	23,285	42.0	26.7	35.5	14.7	10.4	3.0	400	16	9	3,663	72	87	No free water
Yazoo City	6,796	15.0	15.4	61.2	10.4	3.1	9.9	167	(4 W.T. and 1)	11	1,173	90	78	No estimate
Kansas City, Mo.	248,381	490.0	6.9	56.1	14.2	6.7	16.1	6,000	56	12	53,000	95	108	20 per cent
St. Louis, Mo	687,029	949.0	1.9	60.0	1.6	1.0	....	11,103	493	11	109,624	99.9	115	25 per cent
Butte, Mont.	39,165	98.0	27.3	40.1	11.8	6.7	14.1	522	5	5	9,484	100	97	....
Omaha, Neb.	124,096	249.0	4.1	43.4	22.6	5.9	24.0	2,047	105	8	23,807	80	95	7 per cent
Concord, N. H.	21,497	69.0	13.5	33.9	9.8	13.2	29.6	430	(13 W.T. and 4)	6	3,752	94	54	Small per cent
Manchester, N. H.	70,063	131.0	3.0	56.9	17.3	7.3	15.5	941	10	7	7,352	90	56	No estimate
Camden, N. J.	94,538	99.0	17.5	52.7	17.2	1.9	10.7	897	17	9	20,471	86	206	No estimate

Newark, N. J......	347,469	405.0	7.1	58.5	4.4	3.8	26.2	3,048	88	7	44,772	100	110	No estimate
Las Vegas, N. M...	3,179	13.0	77.1	7.8	15.1	None	None	63	2	5	1,600	100	123	No estimate
Buffalo, N. Y......	423,715	553.0	7.0	58.4	0.6	7.0	27.0	5,210	46	9	77,260	100	139	Less than 1 per cent
Elmira, N. Y......	37,176	95.0	12.7	54.7	16.8	6.1	9.7	513	(6 H.T.)	5	7,712	99.9	81	No free service
Glens Falls, N. Y..	15,243	37.0	35.2	46.3	3.7	7.8	7.0	332	None	9	3,372	100	91	No estimate
Columbus, O.......	181,511	303.0	8.1	55.1	21.2	0.1	15.5	2,101	6	7	28,736	94	95	5 per cent
Marion, O..........	18,232	35.0	10.0	60.0	17.1	1.7	11.2	430	(1 and 5 H.T.)	12	2,150	60	61	2¼ million
Massillon, O........	13,879	36.0	27.3	61.5	4.2	2.8	4.2	309	(3 and 6 H.T.)	8	3,262	98	90	No estimate
Newark, O.........	25,404	77.0	2.4	62.3	10.3	5.9	19.1	711	(7 and 9 H.T.)	9	3,500	40	45	5 per cent
Piqua, O...........	13,388	23.0	35.7	54.5	5.4	1.2	3.2	260	(6 W. T.)	11	1,950	....	85	7½ per cent
Springfield, O......	46,921	108.0	9.3	48.8	10.0	2.6	29.3	725	10	7	8,600	90	79	10 per cent
Warren, O..........	11,081	34.0	11.4	69.5	13.5	3.0	2.6	179	11	5	3,008	100	88	....
Youngstown, O	79,066	148.0	2.4	50.6	28.0	0.3	18.7	1,490	8	10	14,500	87	98	30 per cent
Guthrie, Okla......	11,654	21.0	28.5	47.6	9.6	9.6	4.7	130	10	6	1,300	50	62	No estimate
Oklahoma City Okla.............	64,205	148.0	9.8	74.87	2.0	7.21	6.12	795	12	5	10,604	75	71	5 per cent
Portland, Ore	207,214	455.0	10.55	26.15	40.5	4.2	18.6	4,007	75	9	54,481	100	119	Unknown
Allentown, Pa......	51,913	74.0	15.77	36.10	21.43	1.8	24.9	537	30	7	13,179	100	178	No estimate
Altoona, Pa........	52,127	84.0	7.8	29.7	25.6	None	36.9	774	4	9	12,993	99	154	No estimate
Bradford, Pa.......	14,544	37.0	15.8	43.9	6.9	2.1	31.3	282	4	7	3,883	95	105	No estimate
Erie, Pa...........	66,525	145.0	20.4	57.4	0.4	None	21.8	918	35	6	14,551	100	100	No estimate
Johnstown, Pa	55,482	110.0	37.9	19.5	3.9	1.4	37.3	232	5	2	10,250	(75-80)	93	Very small per cent
McKeesport, Pa....	42,694	66.0	46.4	30.6	8.7	0.7	13.6	472	2	7	6,039	75	91	20 per cent
Philadelphia, Pa ...	1,549,008	1,718.0	1.7	65.6	5.4	6.0	21.3	16,942	....	9	360,000	100	210	5 per cent
Reading, Pa........	96,071	114.0	8.9	44.9	2.4	10.7	33.1	982	6	8	22,792	99.9	199	....
Providence, R. I...	224,326	403.0	None	66.8	15.8	0.8	16.6	2,445	....	6	29,261	100	72	No estimate
Charleston, S. C ...	58,833	57.0	3.0	55.8	10.4	1.8	29.0	628	40	11	4,500	45	79	No estimate
Columbia, S. C	26,319	42.0	1.8	58.0	12.5	4.3	23.4	309	8	7	3,120	95	74	2 per cent
Memphis, Tenn....	131,105	249.0	9.9	57.3	5.6	6.2	21.0	1,522	30	6	22,831	....	92	20 per cent
Nashville, Tenn ...	110,364	168.0	5.0	31.2	2.5	0.1	61.2	1,420	18	8	16,729	....	99	10 per cent
Denison, Texas	13,632	19.0	45.0	36.0	5.4	2.8	10.8	171	7	9	3,000	85	158	25 per cent

Information relative to distribution system—Continued

CITY	POPULATION 1910	MILEAGE OF PIPE IN SYSTEM 1913	PERCENTAGE VARIOUS SIZES OF PIPE IN SYSTEM					NUMBER FIRE HYDRANTS IN SYSTEM	PUBLIC DRINKING FOUNTAINS	AVERAGE NUMBER HYDRANTS PER MILE OF PIPE	NUMBER OF TAPS IN SERVICE	PERCENTAGE OF TOTAL POPULATION SUPPLIED	AVERAGE NUMBER TAPS PER MILE OF PIPE	PERCENTAGE OF TOTAL PUMPAGE FURNISHED AS "FREE WATER" TO CITY
			4″ or smaller	6″	8″	10″	12″ and larger							
El Paso, Texas.....	39,279	46.0	None	61.6	17.6	9.2	11.6	203	6	4	5,960	100	129	No free water
Laredo, Texas......	14,855	20.0	41.2	12.1	36.1	7.0	3.6	135	4	6	1,235	100	62	5 per cent
San Antonio, Texas	96,614	200.0	31.9	33.7	18.2	7.0	9.2	1,341	3	7	20,000	90	100	25 per cent
Salt Lake City, Utah	92,777	209.0	12.7	69.6	6.4	2.1	9.2	1,725	48	8	17,564	95	84	20 per cent
Rutland, Vt........	13,546	22.0	10.2	70.8	10.2	None	8.8	169	1	7	2,879	93¾	130	No estimate
Lynchburg, Va.....	29,494	91.0	32.9	19.7	11.8	4.4	31.2	425	8	5	5,800	....	63	No estimate
Richmond, Va	127,628	175.0	22.7	47.5	6.4	3.6	19.8	1,239	32	7	26,000	90	148	15 per cent
Roanoke, Va.......	34,874	74.0	46.7	33.8	6.0	4.7	8.8	287	2	4	6,898	80	93	No estimate
Seattle, Wash.......	237,194	550.0	16.9	14.2	46.7	3.6	18.6	5,108	....	9	41,163	95	75	No estimate
Spokane, Wash.....	104,402	367.0	3.6	65.7	6.2	4.9	19.6	2,142	3	6	20,606	95	56	None given
Beloit, Wis.........	15,125	26.0	20.9	53.2	12.1	9.8	4.0	207	9	7	2,170	65	83	None given
Green Bay, Wis....	25,236	57.0	17.0	54.5	7.4	11.1	10.0	416	9	7	3,623	87	63	None given
Milwaukee, Wis	373,857	696.0	0.7	69.8	12.7	None	16.8	3,340	108	5	58,357	100	83	None given
Cheyenne, Wyo	11,320	30.0	54.0	19.8	8.3	1.3	16.6	164	6	5	2,000	99	67	No estimate
Averages.........	112,609	171.0	17.51	49.54	12.13	4.34	16.48	1,403	....	8	18,571	85	93	....

Some characteristic remarks concerning "Free Water"

"Water for public use should be charged and paid for by the department that uses it, both as a matter of equity and to restrict a lavish use of water."

"The free list is the thief that robs and undermines any business, and it cannot be maintained without deviation and discrimination, and should be eliminated."

"Free service should be metered and a maximum quantity fixed."

"It's a rotten steal—should be paid for, and let every one benefited by fire protection, street sprinkling, horse fountains, etc., help pay for same by tax, at the net cost of pumpage—under present system actual subscribers *only* pay for everything."

"It seems to be an inherited evil which can be guarded by metering and fixing the exact amount to be given."

"I believe that no service should be free as it tends to waste."

"It is an evil once started hard to control and bound to grow."

"I cannot accept the term 'free water;' *somebody must pay the bill.*"

"In order to give an accurate report on the earnings and losses of the department, the city should pay a reasonable amount for these services, and place same in the tax levy, for only in this way would the non-users pay their proportionate share of cost on benefits derived by them from fire and other services."

"I think it is dead wrong policy and adds to the burden of the consumer, making him pay in a slight way a double tax for the city expenses simply because he happens to be a water consumer; property owners, not water consumers, pay no part of this particular portion of the city expense."

"Cut out free water and assess a tax to overcome it."

"It is an abomination unto the Lord, and the mill stone that drags down efficiency in many small plants in this country."

"I am of opinion that free service is a misnomer. Water used under pressure costs something, and if not paid for directly in cash by the immediate consumer, must be provided for in some other way."

"As a matter of strict business practice, there can be no doubt of the fact that every service performed by the water works department should have proper accounting and remuneration, whether the money for such service is actually paid over or not."

CITY	INFORMATION RELATIVE TO ELECTROLYTIC ACTION ON PIPES AND SERVICE LINES	PROVISIONS RELATIVE TO ADDITIONS TO DISTRIBUTION SYSTEM
Anniston, Ala	Some trouble. Remedied by Electro company	One hydrant to each 500 feet of mains ordered. No other requirement
Bessemer, Ala	Lines not affected	Just return on investment
Phoenix, Ariz	Services are affected. Company has insulated all service pipes with fiber conduit. Traction company rebonded all rails. No reimbursement to city on account of loss	No special requirements. Mains extended on application of citizens
Ft. Smith, Ark	No particular trouble from electrolysis	....
Pine Bluff, Ark	Lines not affected	Requirement of $80 revenue for each 500 feet of water mains extended
Sacramento, Cal	Mains slightly affected	....
Pomona, Cal	Lines not affected	Applicants pay cost of extension and receive all payments for water until amount is refunded
San Diego, Cal	Mains affected to point of breaking. Traction line not reimbursing city for loss	Large mains laid by bond issue. Smaller mains out of department receipts
San Francisco, Cal	Mains affected. Traction company bonding. No reimbursement for loss	....
Stockton, Cal	Mains slightly affected. Traction company attempting to prevent damage	Mains extended 100 feet for each consumer
Reedley, Cal	Mains not affected. Light company has taken every precaution	Mains laid on guarantee of 7 per cent
Denver, Col	Mains not affected. Traction company taking measures to prevent	Mains extended by special ordinances
Bristol, Conn	No knowledge of any injury	Lines extended when revenue gives fair returns on investment
Hartford, Conn	Mains affected, but extent of damage unknown. Traction company attempting to prevent injury	Mains extended upon a guarantee of 10 per cent return on cost
Manchester, Conn	Mains affected very little. Traction company attempting to prevent injury	Mains extended when income warrants extension
New Britain, Conn	Mains affected; services slightly affected. Traction company has attempted to prevent injury	Mains extended on 8 per cent of cost of investment
New Haven, Conn	Mains affected somewhat. Traction company has attempted to prevent damage and has reimbursed company for some loss	Mains extended on application
New London, Conn	Service lines slightly affected. Traction company doing nothing to prevent damage	Extensions made on guarantee of 5 per cent of cost of line

Stamford, Conn.	No trouble to speak of from electrolysis	Mains extended when receipts equal 10 per cent of cost of line
Wilmington, Del.	Mains affected to the extent that pipes had to be relaid. Traction company has made no effort to prevent damage. Water department has been reimbursed by Traction company when suit was threatened. Doubtful cases compromised	Mains extended on application
Washington, D. C.	Mains and service lines not seriously affected. All traction lines equipped with underground trolleys, metallic circuits	Mains laid only on bona fide need of water for existing houses when sewerage is provided and street has been graded. Flat assessment of $1.25 per linear foot on each lot abutting new main. Average revenue of this source past five years $83,293.64
Tampa, Fla.	Injury not serious at this time	Mains extended on order from city. One fire plug for each 400 feet
Athens, Ga.	Mains affected to small degree. Railway company renews all pipes affected at no cost to city	Mains extended on application of consumer
Atlanta, Ga.	Mains and service lines are affected. Traction lines are co-operating with water department and city electrician in an effort to remedy trouble	Mains extended whenever demand for water for domestic use and fire protection warrant expenditure
Macon, Ga.	Mains and services affected to a considerable degree. Traction lines doing nothing to prevent injury	Mains extended where the customs warrant expenditure
Anderson, Ind.	Slight damage to service pipes. Traction line attempting to prevent injury	Require 6 services to block
Elkhart, Ind.	No noticeable trouble	Mains extended on order from city. One hydrant for each 500 feet
Evansville, Ind.	Mains slightly affected. Service lines somewhat more. Traction company paid few small bills under protest	Ordinarily when revenue equals 20 per cent of cost of addition
Ft. Wayne, Ind.	Service pipes affected to great extent at times. Under franchise agreement, Traction company must pay for all damages to water pipes on account of electrolysis	When number of consumers warrants extension
Gary, Ind.	No noticeable effect	When income equals 10 per cent of cost of line
Hammond, Ind.	No noticeable effect	When revenue equals 6 per cent of cost of line
Indianapolis, Ind.	Lines affected in locality of power plant. Traction lines making attempt to prevent this injury	Under franchise city has authority to order 40,000 feet of mains per year, taking one hydrant for each 500 feet so ordered
Logansport, Ind.	Lines affected somewhat. Traction company making some effort to prevent damage	When revenue equals 6 per cent of cost of mains
Marion, Ind.	Damage not serious. Traction line bonding	Whenever revenue justifies extension
New Castle, Ind.	No knowledge of any damage	Mains extended on guarantee of 10 per cent of cost of line

CITY	INFORMATION RELATIVE TO ELECTROLYTIC ACTION ON PIPES AND SERVICE LINES	PROVISIONS RELATIVE TO ADDITIONS TO DISTRIBUTION SYSTEM
Richmond, Ind	Mains not affected. Services in certain districts affected and replaced. Traction line rebonded in these districts and made one payment covering cost of replacement	Mains laid on orders from city where revenue to each 500 feet equals $49 from domestic use, or city takes one hydrant at $49
South Bend, Ind	Damage not considered serious. Traction company has rebonded their tracks	Lines usually laid where revenue equals 10 per cent of cost of line
Terre Haute, Ind	Mains and services affected. On complaint of water company, the Traction lines have gone over some of their bonds. Water company was reimbursed for damages to services when Stone and Webster controlled the railway lines but present Traction company refuses to recognize any liability	Mains are laid on orders from city with one fire hydrant for each 365 feet. Company lays voluntarily when consumption is $50 for each 365 feet
Burlington, Iowa	....	Ordinance requires laying of 2 miles of pipe each year provided revenue equals 6 per cent of cost
Council Bluffs, Iowa	Damage not noticeable	Mains laid under printed contract with consumers with requirement of one consumer to every 50 feet
Davenport, Iowa	No noticeable damage	Mains laid on order of city council with provision for one fire hydrant and 6 consumers to each 400 feet
Des Moines, Iowa	Lines not affected	Additions made on order of city council with requirement of 2 miles per year
Dubuque, Iowa	No trouble from electrolysis	Extensions made when petitions pay 15 per cent annually on cost of mains
Iowa City, Iowa	No trouble from electrolysis	Additions made on order from city council with one hydrant at least $12 to each 400 feet
Keokuk, Iowa	No trouble from electrolysis	Additions made on one hydrant for every 732 feet or 5 consumers for each 366 feet
Ottumwa, Iowa	Mains and services badly affected in business districts. Traction company recently rebonded entire city	....
Sioux City, Iowa	Some damage. Traction company doing nothing	Lines laid when revenue equals 10 per cent of cost
Waterloo, Iowa	Mains are being affected. Traction company attempting to remedy trouble	Extensions made where petitioners guarantee 15 per cent on cost for five years
Atchison, Kan	Damage not especially noticeable	Contract requirement extensions at least one consumer to each 100 feet
Ft. Scott, Kan	Damage not especially noticeable	Contract requirement extensions at least one consumer to each 100 feet

Hutchinson, Kan.	Damage not noticeable	Extensions made for 6 consumers and one fire hydrant for each 450 feet
Parsons, Kan.	Damage not noticeable	Mains are extended with provision of one hydrant each 600 feet
Pittsburg, Kan.	Slight damage noticeable	Extensions made on guarantee of 10 per cent on cost
Withata, Kan.	Slight damage noticeable	Extensions made on order from city with one fire hydrant for each 600 feet
Lexington, Ky.	Mains and service lines slightly affected. Traction company pays cost of renewal	Mains laid on orders from city with hydrant for each 400 feet, or by payment of cost of line which is rebated from service within limit of eight years
Louisville, Ky.	No trouble from electrolysis	Mains laid whenever revenue equals 10 per cent of cost of lines
Newport, Ky.	Some damage, estimated at about $5,000.00	Additions made when revenue equals 8 per cent of cost
Alexandria, La.	Systems not materially affected	Extensions made wherever revenue, etc., justifies
New Orleans, La.	Heavy damage from electrolysis. Have renewed a number of lines since present system was completed in 1909. Traction company has taken no adequate steps to prevent loss and water department will probably bring suit	Extensions made where revenue equals 6 per cent of cost of line
Brunswick, Me.	Some service pipes damaged. Traction company have bonded their rails and paid for renewing service pipes	Extensions are made where revenue equals 10 per cent of cost of line
Hagerstown, Md.	No noticeable damage	Extensions made on request of mayor with provision for one hydrant for each 500 feet
Beverly, Mass.	Services have been affected slightly. Railroad company has reimbursed city for expense incurred in renewing all damaged services	Extensions are made whenever the revenue justifies the line
Boston, Mass.	Serious damage to system in vicinity of several street railway power houses. Necessary to relay some lines. Traction company attempting to remedy trouble	
Brookline, Mass.	No noticeable damage	Extensions are made where revenue equals 5 per cent of cost of main
Clinton, Mass.	No noticeable loss	Extensions made on vote of Water Commissioners
Everett, Mass.	Slight damage to system	Extensions are made where revenue or deposit equals 6 per cent of cost of main
Fall River, Mass.	No noticeable damage	Ordinance allows city to order 25,000 feet per year
Framingham, Mass.	No apparent damage	Extensions made by board, usual requirement of 8 per cent of cost

CITY	INFORMATION RELATIVE TO ELECTROLYTIC ACTION ON PIPES AND SERVICE LINES	PROVISIONS RELATIVE TO ADDITIONS TO DISTRIBUTION SYSTEM
Gloucester, Mass.	Service lines damaged. Necessary to replace 15 to 18 services each year. Traction company has paid actual cost of relaying pipe	Extensions made on vote of water commissioners
Haverhill, Mass.	System slightly affected. Traction lines bonded	Lines extended whenever consumers justify extension
Lynn, Mass.	No apparent damage	Extensions made on guarantee of 5 per cent of cost
Malden, Mass.	System slightly damaged	Extensions made on guarantee of 7 per cent of cost of main
New Bedford, Mass.	Damage to city very slight. Apparent damage to steel force main outside city. Local Electric Light & Traction Company carried on an investigation and did immense amount of work in installing return wires, etc.	Extensions made whenever revenue equals 6 per cent of cost of main
North Hampton, Mass.	Occasional leaky services indicating presence of electrolysis	Additions are made on guarantee of 7 per cent on cost of line
Somerville, Mass.	Mains not affected to any appreciable extent. Bonding is carefully done	Extensions are made whenever revenue justifies laying of main
Springfield, Mass.	System damaged to some extent. Traction company cooperating in effort to eliminate trouble	Mains extended on guarantee equivalent to 15 cents annually per foot of pipe
Adrian, Mich.	No damage noticeable. Rails well bonded	Additions made on basis of one consumer per 100 feet and one hydrant per 600 feet of pipe
Ann Arbor, Mich.	No noticeable damage. Traction company has attempted to eliminate any danger	Additions made on orders from city with one hydrant to each 700 feet of pipe
Battle Creek, Mich.	System has been damaged to approximate extent of $4,000. Traction company doing very little to prevent a continuance of damage	Mains are laid on guarantee of 7 per cent on an estimated cost of $1.00 per foot
Bay City, Mich.	System not appreciably affected. Traction company's lines carefully bonded	Extensions made on petitions
Detroit, Mich.	System affected to some extent	A bonus of 5 per cent for three years on the estimated cost of extension is required less the water rates in sight when line is laid
Flint, Mich.	No noticeable damage	Extensions made when revenue equals 6 per cent of cost of line
Holland, Mich.	No noticeable damage	Extensions made when revenue equals 10 per cent of cost of line
Ishpeming, Mich.	Water mains are stave pipe. No electrolytic action	Extensions made on order of city council
Austin, Minn.	No appreciable damage	Extensions made on guarantee of 6 per cent of cost of line
Duluth, Minn.	Effect not particularly noticeable on mains, more so on services	Extensions are made on guarantee of 8 per cent annually on cost of main

Minneapolis, Minn.	Not affected to any appreciable extent. Extensive bonding of rails with return cables	Extensions made on payment of actual cost of line with maximum of 70 cents per front foot
St. Paul, Minn.	Considerable damage in some districts. Traction company pays for renewals when necessary	Water mains laid on assessment of 10 cents per lineal foot of frontage of each lot in front of which main is laid. This assessment running for ten years
Jackson, Miss.	Very little damage from electrolysis	Extensions made when number of consumers justify investment
Meridian, Miss.	Very little damage from electrolysis	Extensions made on a five year guarantee of 25 per cent of the cost of the main
Kansas City, Mo.	Damage not very serious. Water department is taking action against Traction company	When number of consumers justify the expenditure
Independence, Mo.	No appreciable damage. Rails well bonded	Extensions made on basis of one consumer to each 100 feet
St. Louis, Mo.	Effect noticeable on small mains and services only. Department expects to force payment for damages	On petition of property owners
Sedalia, Mo.	Damage localized (small)	Extensions made on orders from city council with 10 hydrants to mile or on basis of $50.00 for domestic consumption for each 600 feet
Springfield, Mo.	Had some trouble from electrolysis but since Traction company made improvements in their return cables the trouble has apparently been eliminated	Extensions are made on basis of hydrant to each 600 feet or 75 feet to each consumer
Dover, N. H.	Mains not seriously affected but some of the wrought iron services show electrolytic action. Railway company keeps rails well bonded	Extensions made on basis of guarantee of 5 per cent
Newark, N. J.	Mains are affected in certain districts. The Traction company has reimbursed the department for a part of the loss sustained	Extensions made on basis of 10 per cent of cost of line
Paterson, N. J.	System damaged but not serious. Traction company in few cases has paid for service pipes where there could be no question as to cause of injury	Extensions are made on basis of guaranteed revenue of 10 cents per foot per annum
Albuquerque, N. M.	Injury is quite severe at certain points. Traction company doing nothing to remedy trouble	Additions made on orders from city council on basis of 10 hydrants to a mile and domestic revenue equal to 6 per cent of cost of line
Binghamton, N. Y.	No noticeable damage	Frontage tax for all mains, bringing to the department about $10,500.00 annually
Buffalo, N. Y.	Having very little trouble with electrolysis. Traction company reimburses city for any loss on account of electrolysis	Extensions made on orders from common council

CITY	INFORMATION RELATIVE TO ELECTROLYTIC ACTION ON PIPES AND SERVICE LINES	PROVISIONS RELATIVE TO ADDITIONS TO DISTRIBUTION SYSTEM
Geneva, N. Y.	Very little appreciable damage	City is figuring on frontage tax but has not definitely decided on amount
Kingston, N. Y.	Very little damage from electrolysis. Traction company co-operated with city in an effort to eliminate this damage	Extensions made on basis of 6 per cent guarantee
Little Falls, N. Y.	No appreciable damage	Extensions made on guarantee of revenue equal to 10 per cent on investment. Annual frontage charge of 2 cents a foot on all streets where mains are laid
North Tonawanda, N. Y.	Wood mains not affected. Some trouble with services. Traction company paid for some services	Additions made on orders from board of public works
Troy, N. Y.	No noticeable effect from electrolysis	Extensions made on orders from common council. Have yearly frontage tax of 20 cents on improved property and 2 cents per foot on vacant property. This covers water for family use, etc.
Utica, N. Y.	Very little trouble now. Following trouble several years ago, the Traction company insulated the affected mains since which time there has been no noticeable damage	Extension made on order of council with one hydrant to each 525 feet or on petition of property owners on guarantee of 10 cents per foot or 10 per cent on actual cost for 5 years
Grand Forks, N. D.	No noticeable effect. Is preparing to make tests	Extensions are made by water department and cost of line up to 6 inches assessed against property, assessment being divided into 10 equal payments. Trunk mains in excess of 6 inches paid for by department
Cincinnati, Ohio	Mains not affected as double trolley is used. (Overhead metallic return.) Interurban company has made good damage discovered in newly annexed villages	Extensions made on guarantee of 10 per cent per annum on cost of 6 inch main. Where mains are laid in newly improved streets the cost is assessed against abutting property. Force mains in excess of 6 inches paid for by city. Extensions made on assurance of 6 per cent interest on investment for 10 years
Columbus, Ohio	Not much damage	Extensions made on assurance of 6 per cent interest on investment for 10 years
Delaware, Ohio	No trouble from electrolysis. Traction lines well bonded	Extensions made on order of city council with one hydrant for each 440 feet
Elyria, Ohio	System affected. Extent unknown	Extensions made on guarantee of 10 per cent of cost of line
Fremont, Ohio	Service lines affected. Traction company contesting ordinance requiring them to return stray currents	Extensions made on requirement of one consumer to each 100 feet of mains

Massillon, Ohio	Wrought iron services affected. Traction system not well bonded. Bills rendered to Traction company for damages	Extensions made on guarantee of 1 consumer for each 528 feet
Piqua, Ohio	Not bothered with electrolysis	Extensions made where income exceeds 60 per cent of cost of investment
Springfield, Ohio	System seriously affected in certain districts. Traction company attempting to remedy trouble	Extensions made when revenue equals 6 per cent of cost
Zanesville, Ohio	System apparently not affected	Extensions made when revenue equals 10 per cent of cost
Guthrie, Okla	No apparent damage	All extensions made by bond issue
Allentown, Pa	System slightly affected	Extensions made by ordinance of city council. Frontage charge 4 inch main, 30 cents; 6 inch main, 50 cents; 8 inch main, 70 cents; 12 inch main, $1.05; 16 inch main, $1.50; on each side of street
Altoona, Pa	In some locations the electrolytic action has destroyed about 2 blocks of mains. Traction company attempting to remedy trouble. City negotiating with Traction company relative to damage	Additions made from revenues of water department. Frontage charge of 25 cents per foot. Average revenue for past 5 years $15,000.00
Erie, Pa	Mains are affected. Traction company showing a disposition to eliminate trouble due to electrolysis and reimbursing water department for damage	Extensions made on bond insuring annual return equal to 7 per cent of cost
Johnstown, Pa	Some damage due to electrolysis. Careful examination made and interesting experiments tried in effort to eliminate the trouble. In some instances sections of cast iron pipe were replaced with wooden stave pipe and in other cases a special bell with wooden wedges instead of lead. Both types of insulators apparently effective	Extensions made when revenue equals 10 per cent of cost
Philadelphia, Pa	No injury whatever from electrolysis. Ex-Chief David R. Walker, Electrical Bureau, Philadelphia, compelled the Traction company to bond their rails from the time the first trolley line was built and it is owing to his foresight that we are entirely free from electrolysis	Extensions are made on authority of councils. Frontage tax of $1.00 for both sides of street or $2.00 per lineal foot of pipe laid. Receipts from this source have averaged $131,624.95 for the past five years
Reading, Pa	System affected very slightly	Extensions made on petition of property owners. Frontage tax of 50 cents per foot except on corner lots where allowance is made of one-third of length of lot. Average receipts for past five years $2,443.00

CITY	INFORMATION RELATIVE TO ELECTROLYTIC ACTION ON PIPES AND SERVICE LINES	PROVISIONS RELATIVE TO ADDITIONS TO DISTRIBUTION SYSTEM
Tacoma, Wash.	System not affected to any great extent. Traction company's lines well bonded	Extensions made on local improvement district plan. The abutting property in residence district pays cost of new main figured on basis of 6 inch line. Cost above this cost being paid by water department. In manufacturing or congested districts, the entire cost irrespective of size of main, is assessed against property benefited
Walla Walla, Wash.	System affected slightly. Traction company by franchise agrees to reimburse for all damages due to electrolysis which they have done	Extensions in old part of city made at the expense of water department. In the new additions a frontage charge is made. The money so received is merely used as a credit on the water rent
Ashland, Wis.	Service lines affected in certain districts near Traction power house. Traction company doing nothing to remedy this trouble	Extensions made on order of city. City paying for hydrants and hydrant rental at the rate of 10 hydrants per mile of main
La Crosse, Wis.	Slight damage noticeable on one or two services near the power house. Traction company has made good all damage. For the last three years, all new track has been equipped with a large return wire placed between the rails connecting all specials, and about every third or fourth rail. This is in addition to the regular welded or bonded joints	Extensions are made upon petition and order of the city council
Madison, Wis.	Have had some trouble with electrolysis, Traction company doing nothing to remedy trouble	Extension made upon petition, paving of street and connecting ends to insure circulation. Property pays entire assessment in front for 4 inch and 6 inch mains. Excess over 6 inches is paid by city
Wilkinsburg Sta., Pittsburgh, Pa.	Damage principally confined to lead service lines. Have found that the use of leadite materially decreases the amount of current through mains	Extensions made when revenue is equal to 15 per cent of cost of line. If cost does not equal that, petitioner pays cost of line and is rebated
Providence, R. I.	Serious damage to mains and service lines. Traction company coöperating with city in attempt to remedy trouble. Wooden insulating joints in mains and service pipes found to be effective	Extensions made when revenue equals 7 per cent of estimated cost
Memphis, Tenn.	Had ten or more cases during past year. Rendered bills against Traction company but charge has been disputed. If damage increases, city will probably bring suit	Extensions made on basis of one consumer to each 100 feet. In new sub-divisions owners pay cost of line and receive rebate

San Antonio, Texas	Damage not definitely known. Traction company bonding its rails	New city contract provides for 8 miles of pipes per year but revenue of 12 cents per foot must be guaranteed before mains are ordered
Ogden, Utah	Only very slight evidence of damage has been found. Traction company uses every care in matter of bonding	Extensions made on petitions
North Yakima, Wash	Not very much trouble as most of system is wood stave pipe	Extensions made whenever business will warrant. Usually figured on basis of 33⅓ per cent return on gross cost of line
Seattle, Wash	Damage serious in different localities. Some pipe had to be replaced on account of electrolysis. Traction company will admit no liability	Extensions made on petition of property owners or on order of city council, entire cost of 8 inch cast iron pipe assessed against property owners. Excess above 8 inches paid for out of water fund
Spokane, Wash	Damage by electrolysis very slight	Extensions made upon petition of 51 per cent of property affected. Cost paid by assessment against property
Roanoke, Va	Practically no damage	Extensions made when cost of main is deposited with water company. Said deposit is held until income on line equals 10 per cent of cost
Milwaukee, Wis	Slight damage by electrolysis. Traction company trying to correct conditions where evidence shows leakage	Extensions made on petition. Abutting property is assessed on the basis of the cost of laying a 6 inch main. Excess of 6 inches is paid out of water fund. Assessment for past five years has been 50 cents per lineal foot on each side of street
Cheyenne, Wyo	No damage from electrolysis	Extensions made upon petition of a majority of property owners along the line of proposed extension

Information relative to metered service

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY WATER CO. OR DEPT.	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Anniston, Ala.	130	15.0	+				Quarterly and monthly	Yes	$2.00	No		No
Bessemer, Ala.	1,500	53.0	+				Quarterly	No				With company
Mobile, Ala.	2,223	20.5	+				Monthly	No				Company
Phoenix, Ariz.	300	7.5	+				Monthly	No				Both
Fort Smith, Ark.	1,000	25.0	+			+	Monthly	Yes	3.00	No		Both
Pine Bluffs, Ark.	2,077	100.0	+				Monthly	Yes	2.00	Yes	6 per cent	Company
Pomona, Cal.	1,900	66.0			+		Monthly	No				
Sacramento, Cal.	None											
San Diego, Cal.	12,681	100.0	+				Monthly	No				Company
San Francisco, Cal.	17,923	30.0	+				Monthly	Yes				Partly with company
Stockton, Cal.	570	23.0	+				15 days	No				Both
Colorado Spr., Col.	213	18.8			+		Monthly	No				Both
Denver, Col.	330	0.75				+	Monthly	Yes				Company
Bristol, Conn.	1,251	75.0	+				Quarterly	No				Company
Hartford, Conn.	13,105	98.7	+				Monthly	No				
Manchester, Conn.		5.0	+				Monthly	No				Company
Meridian, Conn.	618	8.5			+		6 months	No				Both
New Britain	4,651	98.0					Monthly	No				Compulsory
New Haven, Conn.	2,500	10.0	+				Monthly	No				Consumer
New London, Conn.	825	19.0	+				2 months	No				Both
Stamford, Conn.	2,200	58.0	+				8 times a year	Yes	10.00	None	None	Company

Wilmington, Del.	7,574	39.1	+	....	....	....	Monthly	No	....	....	....	Both
Washington, D. C.	31,103	45.0	+	....	+	....	9 times a year	No	....	....	....	....
Jacksonville, Fla.	7,368	79.48	+	....	....	....	Monthly	Yes	....	....	....	Compulsory
Tampa, Fla.	1,383	21.0	+	....	+	....	Monthly	Yes	....	....	....	Both
Athens, Ga.	1,440	100.0	....	....	....	+	Monthly	None	....	....	....	....
Atlanta, Ga.	24,670	97.0	+	....	....	....	Monthly	None	....	....	....	Compulsory
Macon, Ga.	2,841	50.0	+	....	....	....	Monthly	None	....	....	....	Compulsory
Aurora, Ill.	5,756	100.0	....	....	....	+	6 months	None	....	....	....	Compulsory
Cairo, Ill.	218	7.0	+	....	....	+	Monthly	None	....	....	....	Both
Champaign, Ill.	3,700	90.0	....	....	....	+	Quarterly and monthly	Yes	....	No	....	Compulsory
Decatur, Ill.	5,492	100.0	....	....	....	+	Quarterly	No	....	No	....	Compulsory
Dixon, Ill.	300	20.0	....	....	....	+	6 months	Sometimes	....	....	....	Yes
Elgin, Ill.	....	....	+	....	....	....	....	....	....	No	....	City
Freeport, Ill.	2,600	75.0	+	....	....	....	Monthly	None	....	....	....	Compulsory
Kankakee, Ill.	277	8.0	+	....	....	+	Quarterly and monthly	No	....	No	....	Yes
Lincoln, Ill.	541	43.0	+	....	....	+	Monthly	No	....	No	....	Yes
Oak Park, Ill.	5,043	100.0	....	....	....	+	Monthly	No	....	....	....	Compulsory
Peoria, Ill.	365	3.5	+	....	....	+	Monthly	No	....	....	....	Company
Quincy, Ill.	3,500	62.0	+	....	....	....	Monthly	Yes	....	No	....	Both
Rockford, Ill.	8,116	10.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Springfield, Ill.	4,925	81.4	+	....	....	....	Quarterly and monthly	No	....	....	....	Compulsory
Streator, Ill.	350	10.0	+	....	....	....	Monthly	No	....	No	....	Both
Anderson, Ind.	383	14.5	+	....	....	....	Monthly	Yes	....	No	....	Both
Brazil, Ind.	120	96.0	+	....	....	+	Monthly	Partly	....	No	....	Compulsory
Elkhart, Ind.	3,070	79.0	+	....	....	....	Quarterly, monthly and annually	No	....	No	....	....
Evansville, Ind.	43	....	+	....	....	....	Monthly	No	....	....	....	Company

+ Yes.

Information relative to metered service—Continued

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY CITY OR COMPANY	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Fort Wayne, Ind.	1,250	11.0	+	...	...	...	Quarterly and monthly	No	...	...	...	...
Gary, Ind.	2,700	100.0	+	...	...	...	Monthly	Yes	...	Yes	6 per cent	Company
Hammond, Ind.	700	12.0	+	...	...	...	6 months	Yes	3.00	No	...	Both
Jeffersonville, Ind.	102	9.0	+	...	...	...	Quarterly and monthly	No	...	No	...	...
Kokomo, Ind.	271	7.6	...	...	...	...	Monthly	No	...	...	...	Both
Logansport, Ind.	2	...	...	...	...	...	6 months	...	...	...	...	...
Marion, Ind.	784	26.5	+	...	...	...	Quarterly	No	...	...	...	Both
Mishawaka, Ind.	200	10.0	+	...	...	...	Quarterly	Yes	...	No	...	Company
New Castle, Ind.	155	...	+	...	...	+	Quarterly	Yes	...	No	...	Both
Richmond, Ind.	3,041	63.0	+	...	...	...	Monthly and 6 months	Yes	5.00	No	...	Both
South Bend, Ind.	2,500	22.0	+	...	...	...	...	Yes	3.00	No	...	Both
Terre Haute, Ind.	2,093	35.0	+	...	...	...	Monthly	Yes	3.00–10.00	Yes	6 per cent	Both
Vincennes, Ind.	235	10.0	+	...	...	...	Monthly	No	...	No	...	Company
Burlington, Iowa	200	9.0	+	...	...	...	Monthly	No	...	...	...	Company
Clinton, Iowa	2,122	53.1	+	...	...	+	Monthly	No	...	No	...	Both
Council Bluffs, Ia.	2,800	50.0	+	...	...	+	Monthly	No	...	...	...	Company
Davenport, Iowa	5,800	66.0	+	...	...	...	Monthly	Yes	5.00	No	...	Partly with consumer
Des Moines, Iowa	14,553	96.8	+	...	...	...	Monthly	No	...	No	...	Both
Dubuque, Iowa	3,900	98.0	...	...	...	+	Quarterly and monthly	Yes	...	...	...	Compulsory

Iowa City, Iowa..........	117	8.33	+	....	....	....	Monthly	No	....	....	....	Company
Keokuk, Iowa............	1,575	64.9	+	....	....	....	Quarterly and monthly	No	....	....	....	Both
Muscatine, Iowa..........	250	9.66	+	....	....	....	Monthly	No	....	No	....	Both
Ottumwa, Iowa...........	850	50.0	+	....	....	....	Monthly	No	....	No	....	Both
Sioux City, Iowa..........	6,221	100.0	+	....	....	....	Quarterly and monthly	No	....	....	....	Compulsory
Waterloo, Iowa...........	3,843	94.0	+	....	....	....	Monthly	No	....	No	....	Compulsory
Atkinson, Kans...........	340	14.0	+	....	+	....	Monthly	Yes	2.50–5.00	No	....	Both
Fort Scott, Kans..........	1,200	60.0	....	....	....	+	Monthly	No	....	....	....	Both
Hutchinson, Kans.........	3,000	75.0	+	....	....	....	Monthly	Yes	1.00	No	....	Company
Lawrence, Kans...........	1,600	75.0	+	....	....	....	Monthly	No	....	....	....	Both
Parsons, Kans............	1,800	75.0	....	....	....	+	Monthly	Yes	2.00	No	....	Both
Pittsburg, Kans...........	962	25.0	+	....	....	+	Monthly	Yes	3.00	No	....	Both
Wichita, Kans............	3,183	48.0	+	....	....	....	Monthly	Yes	3.00	No	....	Both
Henderson, Ky...........	80	4.0	+	....	....	....	Monthly	No	....	....	....	Both
Lexington, Ky...........	5,130	100.0	+	....	....	....	Monthly	No	....	No	....	Compulsory
Louisville, Ky............	3,022	7.9	+	....	....	....	Monthly	Yes	10.00	No	....	Water company
Alexandria, La...........	1,200	100.0	....	....	+	....	Quarterly and monthly	No	....	No	....	Compulsory
Baton Rouge, La..........	1,350	58.0	+	....	....	....	Quarterly and monthly	Yes	2.50 100.00	No	....	Company
Lake Charles, La..........	7	1.0	+	....	....	....	Monthly	Sometimes	....	No	....	....
New Orleans, La..........	33,873	100.0	+	....	....	....	Quarterly	No	....	No	....	Compulsory
Baltimore, Md...........	3,000	....	+	....	....	....	Quarterly	At times	....	....	6 per cent	Compulsory
Hagerstown, Md..........	625	15.0	+	....	....	....	Monthly	None	....	....	....	Not optional
Arlington, Mass...........	2,366	100.0	+	....	....	....	Monthly	No	....	....	No	No
Beverly, Mass............	726	16.5	+	....	....	....	Monthly	No	....	....	....	Company
Brockton, Mass...........	8,710	99.6	+	....	....	....	Monthly	No	....	No	....	Compulsory
Cambridge City, Mass.....	5,045	31.0	+	....	....	....	Monthly	No	....	No	....	Both

Information relative to metered service—Continued

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY CITY OR COMPANY	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Chelsea, Mass.	4,617	98.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Clinton, Mass.	1,680	90.0	+	....	....	....	Monthly	No	....	No	....	Compulsory
Concord, Mass.	32	2.5	+	....	....	....	Monthly	No	....	....	....	Optional with town
Everett, Mass.	1,900	33.33	+	....	....	....	Quarterly	No	....	No	....	Compulsory
Fall River, Mass.	8,988	99.0	+	....	....	....	....	No	....	No	....	Optional with both
Framingham, Mass.	2,063	100.0	+	....	....	....	Monthly, quarterly and yearly	No	....	....	....	Compulsory
Gardner, Mass.	129	6.9	+	....	....	....	Monthly	No	....	No	....	....
Gloucester, Mass.	399	8.3	+	....	....	....	Monthly	No	....	....	....	Optional with city
Haverhill, Mass.	1,543	21.87	+	....	....	....	Semi-quarterly-monthly	No	....	No	....	Both
Lynn, Mass.	7,141	45.0	....	....	....	+	Monthly	No	....	No	....	Both
Malden, Mass.	7,400	97.0	+	....	....	....	Monthly	No	....	No	....	Compulsory
New Bedford, Mass.	9,998	73.3	+	....	....	....	Monthly	No	....	No	....	Compulsory
Newburyport, Mass.	110	3.0	+	....	....	....	Monthly	No	....	None	....	With city only
Northampton, Mass.	131	....	+	....	....	....	Monthly	No	....	No	....	With city only
Summerville, Mass.	7,164	56.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Springfield, Mass.	13,407	100.0	....	....	....	+	Quarterly	No	....	....	....	Meter required

Taunton, Mass.	2,938	54.0	+	....	+	....	....	Yes	10.00	No	....	Optional
Waltham, Mass.	633	....	+	....	....	....	Twice per quarter	No	....	No	....	....
Winthrop, Mass	2,655	100.0	+	....	....	....	Quarterly	No	....	No	....	Compulsory
Adrian, Mich.	500	25.0	+	....	....	+	Monthly	....	....	....	....	....
Alpana, Mich	64	2.5	+	....	....	+	3 months	No	....	No	....	Optional with city
Ann Arbor, Mich.	350	....	+	....	....	....	Monthly	No	....	No	....	Company
Battle Creek, Mich.	5,769	97.0	....	....	....	....	Monthly and every 2 weeks	Yes	5.00	No	....	Compulsory
Bay City, Mich	2,212	40.0	+	....	....	....	Quarterly and monthly	No	....	No	....	Both
Detroit, Mich	10,807	11.0	+	....	....	....	Quarterly	No	....	....	....	Some cases compulsory
Escanaba, Mich.	400	20.0	+	....	....	....	Quarterly and monthly	Yes	....	....	....	Optional with both
Flint City, Mich	2,149	40.0	+	....	....	....	Monthly	Yes	....	No	....	City
Holland, Mich.	2,193	100.0	+	....	....	....	Quarterly	No	....	No	....	Compulsory
Ishpeming, Mich.	1,577	78.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Jackson, Mich...	6,175	100.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Ludington, Mich.	1,600	85.0	+	....	....	....	Quarterly and monthly	No	....	No	....	Compulsory
Marquette, Mich	1,010	50.0	+	....	....	....	Quarterly	No	....	....	....	Both
Owosso, Mich.	1,627	100.0	+	....	....	....	Quarterly	No	....	....	....	....
Saginaw, Mich.	340	4.35	+	....	....	....	Quarterly	No	....	No	....	Both
Traverse City, Mich.	781	37.0	+	....	....	....	Quarterly	No	....	....	....	City
Duluth, Minn.	6,552	60.0	+	....	....	....	Monthly	Yes	....	Yes	5 per cent	Some cases
Minneapolis, Minn	42,000	90.0	....	....	+	....	Quarterly	No	....	....	....	Optional with city
St. Paul, Minn.	19,584	591.0	+	....	....	....	Monthly	....	....	....	....	Compulsory
Stillwater, Minn.	None	....	....	....	....	....	....	No	....	No	....	....

Information relative to metered service—Continued

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY CITY OR COMPANY	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Virginia, Minn	200	12.0	+	...	...	...	Quarterly	No	...	No	...	Both
Jackson, Miss	1,600	35.0	+	...	...	...	Monthly	No	...	No	...	Compulsory
Meridian, Miss	2,200	60.0	+	...	...	...	Monthly	Yes	2.00	Yes	4 per cent	City
Independence, Mo	1,396	75.0	+	...	...	...	Quarterly and monthly	No	...	No	...	City
Kansas City, Mo	25,269	50.0	...	...	...	+	Monthly	Yes	...	No	...	...
Moberly, Mo	1,170	90.0	+	...	...	...	Monthly	Yes	1.00	No	...	...
St. Joseph, Mo	2,187	17.5	+	...	...	+	Monthly	Yes	...	No	...	Both
St. Louis, Mo	7,366	6.0	+	...	...	+	2 months	Yes	...	No	...	Below ¾ optional
Sedalia, Mo	705	35.0	+	...	...	...	Monthly	No	...	...	...	...
Springfield, Mo	1,300	20.0	+	...	...	+	Quarterly and monthly	No	...	Yes	8 per cent	Both
Billings, Mont	360	16.0	+	...	...	...	Monthly	Sometimes	...	...	...	Company
Butte, Mont	573	...	+	...	...	...	Monthly	Yes	...	...	...	Company
Missoula, Mont	150	...	+	...	...	...	Monthly	No	...	No	...	Both
Omaha, Neb	20,593	85.0	...	...	...	+	Monthly	Sometimes	...	No	...	Compulsory
Concord, N. H	2,243	59.0	+	...	...	...	Quarterly	No	...	...	...	City
Dover, N. H	1,438	74.0	...	...	...	+	Quarterly	No	...	...	...	Compulsory except one family
Keene, N. H	190	...	+	...	...	+	Quarterly	No	...	No	...	Both
Manchester, N. H	5,689	77.0	+	...	...	...	Monthly	No	...	...	...	Both
Bridgeton, N. J	No meters used		...	...	...	...	...	...	...	...	...	...

Camden, N. J.	1,131	0.05	+	....	....	....	Monthly	No	....	....	....	Both
Garfield, N. J.	1,300	90.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Newark, N. J.	24,729	54.0	....	....	....	+	Quarterly	No	....	No	....	Compulsory
Passaic, N. J.	3,782	53.0	+	....	....	....	Quarterly and monthly	Sometimes	....	5.00	5 per cent	Not altogether
Paterson, N. J.	8,438	55.0	+	....	....	....	Quarterly and monthly	Sometimes	....	5.00	5 per cent	....
Perth Amboy, N. J.	1,366	29.0	+	....	....	....	....	....	....	....	....	....
Phillipsburg, N. J.	66	....	+	....	....	....	Quarterly	No	....	No	....	....
Rahway, N. J.	180	10.0	....	....	....	....	....	No	....	No	....	....
West Orange, N. J.	1,671	97.0	+	....	....	....	Quarterly	Yes	5.00	Yes	4 per cent	....
Albuquerque, N. M.	2,478	96.0	+	....	....	....	Monthly	No	....	No	....	Both
Las Vegas, N. M.	12	0.75	+	....	....	....	Monthly	No	....	....	....	Both
Auburn, N. Y.	702	7.3	+	....	....	....	Monthly	No	....	....	....	Neither
Binghamton, N. Y.	4,000	45.0	+	....	....	....	Semi-Annually, monthly and bi-monthly	No	....	....	....	Compulsory
Cortland, N. Y.	1,640	68.0	+	....	....	....	Quarterly	No	....	....	....	....
Dunkirk, N. Y.	3,188	99.0	....	....	+	....	3 times year	No	....	No	....	Compulsory
Elmira, N. Y.	3,559	46.0	+	....	....	....	Quarterly	Yes	5.00	Yes	6 per cent	Over $14 flat rate compulsory
Geneva, N. Y.	2,950	100.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Glens Falls, N. Y.	39	1.1	+	....	....	....	Monthly	No	....	....	....	Company
Gloversville, N. Y.	3,630	93.0	+	....	....	....	Every 2 months	....	....	....	....	Compulsory
Jamestown, N. Y.	6,000	80.0	+	....	....	....	Quarterly	No	....	....	....	Optional with city
Kingston, N. Y.	125	2.5	+	....	....	....	....	No	....	No	....	....
Little Falls, N. Y.	331	16.0	+	....	....	....	Monthly	Yes	Yearly flat rate	....	....	City

Information relative to metered service—Continued

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY CITY OR COMPANY	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Mt. Vernon, N. Y.	5,000	100.0	+	....	....	....	Quarterly	No	....	No	....	Compulsory
New Rochelle, N. Y	6,164	99.0	+	....	....	....	Semi-annually, quarterly	No	....	....	....	Compulsory
North Tonawanda, N. Y.	50	....	+	....	....	....	3 months	No	....	No	....	....
Ogdensburg, N. Y	10	0.0003	+	....	....	....	Quarterly	No	....	No	....	Both
Olean, N. Y.	2,877	100.0	....	....	+	....	Quarterly	No	....	No	....	Compulsory
Ossining, N. Y.	1,385	....	....	....	+	....	Annually, semi-annually and quarterly	No	....	....	....	Compulsory
Rensselaer, N. Y.	140	8.0	+	....	....	....	Quarterly and monthly	No	....	....	....	Both
Schenectady, N. Y.	240	2.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Syracuse, N. Y.	25,114	97.0	....	....	....	+	....	....	....	....	....	....
Troy, N. Y.	400	3.5	+	....	....	....	....	No	....	....	....	Both
Utica, N. Y.	12,411	96.0	+	....	....	....	Quarterly and monthly	Some	....	6 per cent	....	Company
Waterford, N. Y	740	89.0	....	....	....	+	Quarterly and monthly	Some	....	....	....	Compulsory
Watertown, N. Y.	690	....	+	....	....	....	Monthly, semi-annually	No	....	No	....	....

Whiteplains, N. Y.	3,213	99.0	+	....	....	....	Quarterly	None	....	....	....	City
Yonkers, N. Y.	8,886	100.0	+	....	+	....	Weekly, monthly and quarterly	No	....	....	....	Compulsory
Asheville, N. C	2,500	....	+	....	....	....	Monthly	No	....	....	....	Compulsory
Durham, N. C.	1,350	....	+	....	....	....	Weekly, monthly and quarterly	....	....	....	....	Compulsory
Wilmington, N. C.	1,390	45.0	+	....	....	....	Monthly	No	....	No	....	Both
Grand Forks, N. D.	1,785	80.0	....	....	+	....	Monthly	No	....	....	....	Compulsory
Canton, O.	926	10.0	+	....	....	....	Quarterly	No	....	No	....	City
Cincinnati, O	25,489	47.6	....	....	+	....	Monthly	No	....	....	....	....
Columbus, O.	26,769	93.43	....	....	+	....	Semi-annually, bi-monthly and monthly	Yes	....	Depend	on service	Compulsory
Elyria, O.	3,571	100.0	+	....	....	....	Quarterly and monthly	Advance payment	....	....	....	Compulsory
Fremont, O	1,730	93.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Marion, O.	2,100	90.0	+	....	+	....	Quarterly and monthly	No	....	....	....	Compulsory
Massillon, O.	1,000	33.33	+	....	....	....	Quarterly	No	....	....	....	Some cases
Middletown, O.	1,450	55.0	+	....	....	+	Quarterly	No	....	....	....	Compulsory
Newark, O.	2,300	66.66	....	....	....	+	Quarterly	No	....	None	....	Compulsory
Piqua, O.	None. Cannot use them account of supply of water furnished											
Springfield, O.	2,000	20.0	....	....	....	+	Monthly	No	....	....	....	Both
Tiffin, O.	....	....	+	....	....	....	....	....	....	....	....	....
Warren, O.	2,063	67.0	+	....	....	....	Monthly	Yes	5.00	No	....	Compulsory
Youngstown, O.	4,161	28.0	....	....	....	+	Quarterly	No	....	....	....	Compulsory
Zanesville, O.	50	Less than 1.0	+	....	....	....	Monthly	No	....	No	....	Company

Information relative to metered service—Continued

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY CITY OR COMPANY	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Guthrie, Okla.	850	65.0	+	...	...	...	Monthly	No	...	...	...	Company
Muskogee, Okla.	3,000	64.0	+	...	...	...	Quarterly and monthly	Yes	3.00	...	...	...
Oklahoma, Okla.	7,350	75.0	+	...	...	...	Monthly	Yes by tenant	...	2 months over bill	No	Compulsory
Shawnee, Okla.	1,400	73.7	+	...	...	...	Monthly	Yes	5.00	No	...	Compulsory
Portland, Ore	13,221	22.1	+	...	...	...	Monthly	Advance payment	...	...	...	City
Allentown, Pa.	89	0.0067	+	...	...	...	Monthly	No	...	No	...	Consumer
Altoona, Pa.	616	4.7	...	...	...	+	Monthly	No	...	...	...	Both
Bradford, Pa.	116	...	...	...	...	...	Quarterly	No	...	...	...	Company
Duquesne, Pa.	1,675	100.0	+	...	...	...	Monthly	No	...	No	...	Compulsory
Erie, Pa.	406	3.0	+	...	...	...	Monthly	No	...	No	...	Company
Johnstown, Pa	1,511	14.6	+	...	...	...	Quarterly	No	...	None	...	Company
Lebanon, Pa	117	...	+	...	...	...	Monthly	No	...	...	...	Company
McKeesport, Pa.	3,606	50.0	...	...	...	+	Quarterly	No	...	No	...	Consumer
Meadville, Pa	1,764	66.5	...	...	...	+	Quarterly	No	...	...	...	Both
Philadelphia, Pa	4,850	1.4	+	...	...	+	Quarterly	No	...	None	...	Both
Reading, Pa.	4,177	18.3	+	...	...	...	Monthly	No	...	...	...	Both
Sharon, Pa.	1,354	...	+	...	...	+	Monthly	...	...	...	...	Both
Shenandoah, Pa.	25	...	+	...	...	...	Semi-monthly	No	...	None	...	...
Sunbury, Pa.	50	0.00156	+	...	...	...	Bimonthly	None	...	None	...	Company
Williamsport, Pa.	115	2.0	+	...	...	...	Monthly	None	...	...	...	Company

Pawtucket, R. I.	....	....	....	....	....	....	....	....	....	....	....	....
Providence, R. I.	26,298	90.0	....	....	+	....	Quarterly few months	Minimum charge in advance				Both
Charleston, S. C.	250	....	+	....	....	....	Monthly	No	....	No	....	Both
Columbia, S. C.	3,120	100.0	+	....	....	....	Quarterly	No	....	....	....	Compulsory
Jackson, Tenn.	40	1.0	+	....	....	....	Monthly	No	....	....	....	Department
Memphis, Tenn.	12,451	54.5	+	....	....	....	Monthly	Yes	....	2 months bill	....	Department
Nashville, Tenn.	13,320	80.0	+	....	....	....	Quarterly and monthly	No	....	No	....	Both
Denison, Texas	2,600	85.0	+	....	....	....	Monthly	Yes	1.50	....	....	Company
El Paso, Texas	4,673	75.0	+	....	....	....	Monthly	Yes	2.00–50.00	No	....	....
Galveston, Texas	6,041	100.0	+	....	+	....	Monthly	No	....	....	....	Compulsory
Laredo, Texas	300	25.0	+	....	....	....	Monthly	No	....	No	....	Company
San Antonio, Texas	4,542	20.0	+	....	+	....	Monthly	Yes	3 mos. $10 flat rate except owner	....	6 per cent	Both
Temple, Texas	855	45.0	....	....	+	....	Quarterly	No	....	....	....	Both
Waco, Texas	650	8.0	+	....	....	....	Monthly	Yes from tenants	1 month flat rate	....	....	Company
Ogden, Utah	325	....	+	....	....	....	Monthly	Yes	20.00	No	....	Both
Salt Lake City, Utah	800	4.5	+	....	....	....	Quarterly and monthly	Yes	Cost of meter	No	....	Consumer
Burlington, Vt.	3,503	87.38	+	....	....	....	Quarterly and monthly	No	....	....	....	Both
Rutland, Vt.	150	....	+	....	....	....	Monthly	No	....	....	....	....
Lynchburg, Va.	475	8.0	+	....	+	....	Monthly	No	....	No	....	Both
Richmond, Va	18,739	70.0	+	....	....	....	Monthly	No	....	....	....	Compulsory
Roanoke, Va.	3,483	49.0	+	....	+	....	....	No	....	....	....	Compulsory
North Yakima, Wash	3,226	98.0	+	....	....	....	Monthly	Yes	3.00–5.00	Yes	8 per cent	....

Information relative to metered service—Continued

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY CITY OR COMPANY	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Seattle, Wash.	31,890	77.5	+	....	....	....	Monthly	Don't use	....	....	....	Compulsory
Spokane, Wash.	7,690	31.0	....	....	+	....	Monthly and 3 times year	No	....	....	....	Optional with both
Tacoma, Wash.	1,356	10.7	+	....	....	....	Monthly	No	....	No	....	....
Walla Walla, Wash.	182	....	+	....	+	....	Monthly	No	....	....	....	Both
Ashland, Wis.	543	27.5	+	....	+	....	Monthly	Yes	3 months av. bill	No	....	Both
Beloit, Wis.	1,765	82.0	+	....	....	....	Quarterly	Yes	3 months av. bill	Yes	3 per cent	Compulsory
Green Bay, Wis.	4,687	....	+	....	....	....	Monthly and 3 months	Yes	3 months av. bill	No	....	Compulsory
La Crosse, Wis.	2,470	48.1	....	....	....	+	Quarterly	Advance payment	....	....	....	1 inch under—optional over—compulsory
Madison, Wis.	5,453	99.4	+	....	....	....	Monthly	No	....	....	....	Compulsory
Marinette, Wis.	97	25.0	+	....	....	....	Monthly	No	....	....	....	Both
Milwaukee, Wis.	57,657	98.8	+	....	....	....	Monthly	No	....	....	....	Compulsory
Racine, Wis.	5,574	72.7	+	....	....	....	....	No	....	....	....	Both
Superior, Wis.	4,408	86.0	+	....	....	....	Monthly	Yes	3.00	No	....	Compulsory

Cheyenne, Wyo.	1	....	....	....	....	....	Monthly	No	....	....	....	Over 1 inch
Hollister, Cal.	251	30.0	+	....	....	....	Monthly	No	....	....	....	....
National City, Cal.	843	63.0	+	....	....	....	Monthly	Sometimes	....	....	....	Both
Reedley, Cal.	30	10.0	+	....	....	....	Monthly	No	....	....	....	Both
Daytona, Fla.	370	100.0	+	....	....	....	Quarterly	Yes	5.00	....	....	Compulsory
Miami, Fla.	1,505	100.0	+	....	....	....	Quarterly and monthly	Advance payment ($3 per quarter)				....
Downey, Idaho	55	100.0	+	....	+	....	Monthly	No	....	....	....	Compulsory
Lake Forest, Ill.	695	100.0	....	....	....	+	Quarterly	No	....	....	....	....
Valparaiso, Ind.	725	50.0	....	....	....	+	Monthly	No	....	....	....	Both
Washington, Ind.	250	26.0	+	....	+	....	Quarterly	No	....	No	....	Optional with consumer
Creston, Iowa	464	71.2	....	....	....	+	Quarterly	No	....	....	....	Company
Danville, Ky.	730	100.0	+	....	....	....	Monthly	No	....	....	....	Compulsory
Brunswick, Me.	350	30.0	+	....	+	....	Quarterly and monthly	Advance payment	....	....	....	Compulsory
Reading, Mass.	1,390	92.0	+	....	....	....	Monthly	No	....	No	....	Department
Coldwater, Mich.	None	....	....	....	....	....	....	....	....	....	....	....
Mt. Clemens, Mich.	850	50.0	+	....	....	....	Quarterly and monthly	No	....	....	....	Compulsory
Austin, Minn.	902	90.0	+	....	....	....	Quarterly	Yes	Advance minimum 90 cents	....	....	....
Yazoo City, Miss.	576	49.0	+	....	....	....	Monthly	No	....	None	....	Compulsory
Excelsior Spr., Mo.	647	100.0	+	....	....	....	Monthly	Yes	45 days	....	....	Compulsory
Canandaigua, N. Y.	1,677	100.0	....	....	....	+	Quarterly and monthly	No	Average bill	None	....	Compulsory
Huntington, L. I.	900	90.0	+	....	....	....	Quarterly	No	....	....	....	....
Norwich, N. Y.	14	1.0	+	....	....	....	Quarterly	No	....	None	....	....

Information relative to metered service—Continued

CITY	NUMBER METERS IN SERVICE	PERCENTAGE OF TAPS METERED	OWNED AND MAINTAINED BY CITY OR COMPANY	OWNED BY CITY OR COMPANY; MAINTAINED BY CONSUMER	OWNED BY CONSUMER; MAINTAINED BY CITY OR COMPANY	OWNED AND MAINTAINED BY CONSUMER	HOW OFTEN ARE METERS READ?	DO YOU REQUIRE CASH DEPOSIT?	IF SO, WHAT AMOUNT?	DO YOU PAY INTEREST ON DEPOSIT?	IF SO, WHAT RATE?	IS METERING OPTIONAL WITH CITY AND CONSUMER?
Seneca Falls, N. Y.	65	....	+	....	....	....	....	Sometimes	....	None	....	Consumer
Elizabeth City, N. C.	49	10.0	+	....	....	....	Monthly	Depends	....	No	....	Company
Conneaut, Ohio	1,000	45.0	+	....	....	....	Quarterly and monthly	Property owner responsible	....	....	....	Both
Delaware, Ohio	955	....	+	....	....	....	....	No	....	....	....	....
Nazareth, Pa.	60	....	+	....	....	....	Monthly	....	....	....	....	Company
New Holland, Pa.	....	10.0	....	....	....	....	....	No	....	....	....	Both
North East, Pa.	60	8.0	....	....	....	+	Monthly	No	....	....	....	Both
Mitchell, S. D.	528	98.0	+	....	....	....	6 months	Yes	6.00	No	....	....
Clarksville, Tenn.	150	15.0	+	....	....	....	Monthly	Yes	Advance payment	....	....	....
Manchester, Vt.	237	65.0	+	....	....	....	....	....	....	....	....	....
Anacortes, Wash.	240	40.0	+	....	....	....	Monthly	Yes	....	....	After 6 months 8 per cent	....
Hoquiam, Wash.	300	18.0	+	....	....	....	Monthly	Yes	Previous consumption	....	....	Both
Waukesha, Wis.	1,628	100.0	+	....	....	....	Quarterly and monthly	No	....	....	....	Compulsory
Newport, Ky.	2,400	35.0	....	....	....	+	Quarterly	Yes	2.50	No	....	Compulsory

Some remarks of water works superintendents relative to the metering of fire lines

"We have never proven any loss but always suspect it."

"Any legitimate effort to diminish fires should be fostered, particularly by municipally owned plants where the stockholders and the patrons are practically the same parties. The expense of a fire line meter, whether owned by the water department or by the consumer, falls upon the consumer either as first cost or as charge for fire service. This expense will keep many who otherwise have fire lines from installing them. It is the writer's opinion that the better plan is to seal all outlets, to inspect seals at irregular times, and to impose a heavy penalty for seals found broken on inspection; it being a rigid rule that the patron must notify the department at once of any broken seals so that they may be promptly replaced. Repeated violation of the rule that the line shall be used exclusively for fire extinguishing should deprive the offender of the use of the fire line."

"Without meters on fire services it is impossible to get the amount of waste water to a minimum."

"To meter is the only sure way to prevent stealing, intentional or otherwise, of water."

"I feel that universal metering upon every supply and charges accordingly is the only fair and proper method for a city to adopt."

"I most emphatically do, for while I believe most men are honest, the temptation to steal water from an unmetered fire service is too strong to resist in some cases."

"An unmetered fire line is one of the most dangerous frauds ever perpetrated on a water plant."

"Installed one 10-inch and 12-inch H. F. Meters at large mill with two miles of yard piping, formerly supplied by 15 smaller meters. After installation, consumption recorded was three and one-half times greater than formerly recorded by old interior meters. This wastage was largely caused by yard leakage unknown to both company and consumer. After leaks were repaired, consumption has continued to be practically twice the original amount of old interior meters."

"We recommend the metering of all services, otherwise you run the chance of losing both by theft and leakage. A few years ago, one of our mills was glad to settle a case for $7500 and an illustration of the other point occurred last summer. We located the leak after considerable trouble and a meter sat at this point showed a waste of 10,000 cubic feet a day. The break occurred in the mill yard and drained into a nearby pond, there being no sign on the surface of the ground that indicated trouble."

"We recommend the metering of fire services as a prevention of waste, and prevents the inclination of consumers to tap fire lines for other purposes, thereby escaping just payment for the other purposes."

Information relative to

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Alabama								
Anniston	Springs					No		No
Bessemer	Springs					No	No	No
Mobile	Mountain creeks					No	Yes	No
Arizona								
Phoenix	Wells	12–16	200	8,000,000		No	No	No
Arkansas								
Fort Smith	Surface water				Poteau River	Yes	No	No
Pine Bluff	Wells	10	800	1,600,000		No	No	No
California								
Pomona	Tunnels and wells	12	550			No	No	No
Sacramento	Surface				Sacramento River	No	No	No
San Diego	Surface				Sacramento River	Yes	No	No
San Francisco	Surface and wells	10	75–200			Partly	No	No
Stockton	Wells	12–16	800–1100			No	No	No
Colorado								
Colorado Springs	Surface				Slopes of Pikes Peak	No	No	No
Denver	Surface				Mountain stream	Yes	Yes	No
Connecticut								
Bristol	Surface					No	No	No
Hartford	Surface					Yes	Yes	No
Manchester	Surface and springs					No	No	No
Meriden	Surface				Shed area	No	Yes	No
New Britain	Surface				Brooks and shed area	No	No	No
New Haven	Surface				Lakes and rivers	Yes	No	No
New London	Surface				Lake Konomoe	No	No	No
Stamford	Surface				Reservoirs	No	Yes	No
Delaware								
Wilmington	Surface				Brandywine Creek	Yes	No	No
District of Columbia								
Washington	Surface				Potomac River	Yes	No	No
Florida								
Jacksonville	Wells	6–12	985–1015	11,936,462		No	No	No
Miami	Wells	6–8	85–90	3,500,000		No	No	No
Georgia								
Athens	Ocomee River					Yes	Yes	No
Atlanta	Surface				Chattahoochee River	Yes	No	No

source of water supply, etc.

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
None	Pumpage	Reservoir	58,000,000	1,933,000	80,540	148	95	60–100
None	Pumpage	Reservoir	28,000,000	933,000	38,875	100	80–90	80–90
Yes	Pumpage	Reservoir	372,472,940	12,230,402	509,370	81	81	81
No	Pumpage	Stand pipe	72,000,000	2,400,000	100,000	85–45	80–40	80–40
None	Pumpage	Reservoir	70,833,333	2,361,111	98,380	85	85	85
Yes	Pumpage	Direct	....	....	....	....	100–45	100–45
....	Both	Reservoir	70,000,000	2,750,000	98,000	....	125–45	45
None	Pumpage	Direct	435,000,000	14,187,591	500,000	60–40	60–40	60–40
Yes	Gravity	Direct	174,500,000	5,750,000	240,000	123–90	100–60	140–25
....	Both	Both	1,173,600,000	39,120,000	1,630,000	....	90–40	....
None	Pumpage	Stand pipe	120,000,000	4,000,000	300,000	60–50	40–45	40–45
....	Gravity	Direct	195,774,000	6,436,400	268,183	....	80–70	125–60
Yes	Both	Both	1,319,951,163	43,277,087	1,803,211	80	80–60	90–45
Yes	Gravity	....	30,000,000	1,000,000	41,700	130	40	40
Yes	Gravity	....	259,200,000	8,640,000	360,000	....	80–60	75–30
None	Gravity	....	....	....	....	....	70–64	100–40
Yes	Both	Reservoir	93,600,000	3,122,000	130,000	100	115–100	115–20
Yes	Gravity	Direct	15,000,000	500,000	21,000	80	80	80
Yes	Both	Reservoir	805,000,000	23,500,000	998,000	35–45	35–45	35–45
Yes	Gravity	....	90,000,000	3,000,000	125,000	....	60–70	40–60
Yes	Gravity	....	90,000,000	3,000,000	125,000	....	60–75	60–75
Yes	Pumpage	Reservoir	330,000,000	11,231,576	465,000	Low service, 20–59 High service, 20–93 Extra high service, 30–80		
Yes	Pumpage	Filter plant	1,887,000,000	62,000,000	2,500,000	35–140	40–60	20–100
Yes	Pumpage	Direct and stand pipe	135,484,919	5,378,756	224,114	60–110	50–110	50–110
None	Both	Stand pipe	316,306,500	10,543,550	476,315	513	45–75	40–75
Yes	Pumpage	Stand pipe	31,482,500	1,049,417	43,725	135	100	80
Yes	Pumpage	Direct	498,213,980	16,607,133	691,964	115–135	60	60

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Georgia—con.								
Macon	Surface				Ocmulgee River	Yes	No	Yes
Idaho								
Downey	Springs					No	No	No
Illinois								
Aurora	Wells	6–18	2,250	3,960,000		No	No	No
Champaign	Wells		158	1,920,000		Yes	No	No
Decatur	Surface				Sangamon River	Yes	Yes	No
Elgin	Wells	8–12	13,00–2,000			No	No	No
Dixon	Wells	8	1800	1,500,000		No	No	No
Freeport	Wells	2½–8				Yes	No	Yes
Kankakee	Surface				Kankakee River	Yes	Yes	No
Lake Forest	Surface				Lake Michigan	Yes	Yes	No
Lincoln	Wells		18			No	No	No
Oak Park	Surface				Lake Michigan	No	No	No
Peoria	Wells	7–34.5	59	13,000,000		No	No	No
Quincy	Surface				Mississippi River	Yes	Yes	No
Rockford	Wells	12–18	1,400–1,500			No	No	No
Springfield	Wells	12	40–50			No	No	No
Streator	Surface				River	Yes	Yes	No
Indiana								
Anderson	Surface				White River	Yes	Yes	No
Brazil	Wells	6–8	90–120			No	No	No
Elkhart	Wells	40	45	6,000,000		No	No	No
Evansville	Surface				Ohio River	Yes	Yes	No
Fort Wayne	Rock Wells	8	130–325					
Gary	Surface				Lake Michigan	No	No	No
Hammond	Surface				Lake Michigan	No	No	No
Indianapolis	Surface and wells	8–10	350		White River	Yes	Yes	No
Jeffersonville	Wells	12	40			No	No	No
Kokomo	Wells	6–8	130			No	No	No
Logansport	Surface				Eel River	No	No	No
Marion	Wells	8	120–307	2,500,000		No	No	No
Mishawaka	Wells	10	200–300	6,000,000		No		No
New Castle	Wells	4–6–8	90	1,500,000		No	No	No
Richmond	Surface				In filtration	No		No

of water supply, etc.—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
Yes	Pumpage	Both	142,000,000	4,700,000	200,000	70–118	70	50
None	Gravity	....	....	....	....	100	....	....
Yes	Pumpage	Direct and stand pipe	70,356,750	2,313,099	96,379	75	76	55–76
None	Pumpage	Reservoirs	45,000,000	1,500,000	62,500	45–95	40–80	25–80
....	Pumpage	Direct	110,000,000	3,650,000	153,000	85	65	50
....	Pumpage	Direct	47,692,336	1,567,967	65,332	80	90	40–80
None	Pumpage	Direct and stand pipe	24,000,000	800,000	33,333	65	55	45
Check required	Pumpage	Stand pipe	55,333,185	1,814,203	75,592	82	70–80	35–80
None	Pumpage	Direct	69,900,000	2,330,000	97,083	70–110	60–100	50–90
None	Pumpage	Stand pipe	21,000,000	700,000	29,167	90–140	30–60	60–120
None	Pumpage	Direct and stand pipe	20,000,000	670,000	27,916	63–110	40–85	40–85
....	Pumpage	Direct	47,220,000	1,570,000	65,416	50–75	....	....
Check required	Pumpage	Direct and reservoirs	255,335,000	8,400,000	350,000	130	85–110	30–85
Check required	Pumpage	Direct and reservoirs	60,794,900	1,998,738	83,281	90	45	5.75
Check required	Pumpage	Direct	95,571,513	3,221,511	134,229	60–85	....	....
None	Pumpage	Reservoirs and direct	159,000,000	5,300,000	220,833	85–100	25–30	25–30
None	Pumpage	Direct	60,000,000	2,000,000	82,500	65–120	45–90	45–70
Check required	Pumpage	Direct	41,787,604	1,373,839	57,243	65–115	45–95	45–95
None	Pumpage	Direct	15,700,000	500,500	20,854	70–80	50–60	20–65
None	Pumpage	Direct	64,362,058	2,145,402	89,392	60–90	50–80	50–80
None	Pumpage	Direct	284,660,000	9,358,700	390,000	50–100	45–100	35–90
Check required	Gravity	Reservoir	168,750,000	5,625,000	234,375	60	35–40	35–40
Check required	Pumpage	Direct and stand pipe	44,983,000	1,479,000	61,625	57–140	53–130	53–130
None	Pumpage	Direct	249,217,082	819,317	34,138	60	45	30
Check required	Pumpage	Direct	....	....	....	60–120	55–110	50–100
None	Pumpage	Stand pipe	25,500,000	850,000	35,416	55–100	50–75	50–75
Not allowed	Pumpage	Direct	62,048,000	2,034,000	84,750	60–100	40–90	40–90
....	Pumpage	Direct	135,000,000	4,500,000	187,500	50–100	40–90	40–90
2 checks required	Pumpage	Direct and reservoir	51,996,305	1,704,797	71,033	50–120	50–120	50–120
None	Pumpage	Direct	90,000,000	3,500,000	166,666	60–100	50–90	40–80
Check required	Pumpage	Direct	42,000,000	1,400,000	58,333	100–150	60–110	40–90
None	Both	Direct and reservoir	81,560,000	2,681,000	111,708	80	70	50–75

Information relative to source of

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Indiana								
South Bend..	Wells	4-10	115	....	....	No	No	No
Terre Haute .	Surface	....	....	....	Wabash River	Yes	Yes	No
Vincennes....	Surface	....	....	....	Wabash River	Yes	Yes	No
Valparaiso ...	Lake and wells	10-12	110	1,100,000	....	Yes	Yes	No
Iowa								
Burlington...	Surface	....	....	....	Mississippi River	Yes	No	No
Clinton.......	Wells	....	1,200-2,100	2,250,000	Mississippi River	Yes	Yes	No
Council Bluffs	Surface	....	....	....	Mississippi River	Yes	Yes	No
Creston	Surface	....	....	....	Improved reservoir	Yes	No	No
Davenport...	Surface	....	....	....	Mississippi River	Yes	Yes	No
Des Moines..	Surface	....	....	....	Collecting conduits	Yes	Yes	No
Iowa City....	Surface	....	....	....	River	Yes	Yes	No
Keokuk......	Surface	....	....	....	Mississippi River	Yes	Yes	No
Muscatine....	Wells	6-8	50	....	....	No	No	No
Ottumwa.....	Surface	....	....	....	Des Moines River	Yes	Yes	No
Sioux City ...	Wells	2-8-16	75-400	....	....	No	No	No
Waterloo	Wells	6-12	1,375	3,000,000	....	No	No	No
Kansas								
Atchison.. ...	Surface	....	....	....	Mississippi River	Yes	Yes	No
Fort Scott....	Surface	....	....	....	Marmaton River	Yes	No	No
Hutchinson..	Wells	6	75	....	....	....	....	....
Lawrence	Wells	6-50	30-45	....	....	No	No	No
Parsons	Surface	....	....	....	Lavitte and Mosho Rivers	Yes	No	No
Pittsburg.....	Wells	8-16	....	....	....	No	No	No
Wichita	Wells	8	30-40	....	....	No	No	No
Kentucky								
Danville	Surface	....	....	....	Di River	Yes	No	No
Henderson ...	Surface	....	....	....	Ohio River	No	No	No
Lexington....	Surface	....	....	....	Improved reservoir	Yes	Yes	No
Louisville	Surface	....	....	....	Ohio River	Yes	No	No
Newport	Surface	....	....	....	Ohio River	Yes	Yes	No
Louisiana								
Alexandria ...	Wells	6-10-12	1100	1,650,000	....	No	No	No
Baton Rouge.	Wells	6-8-10	856-1,310	....	....	No	No	No
Lake Charles.	Wells and surface	10	600-700	....	Calcasieu River	No	No	No

water supply, etc.—Continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
....	Pumpage	Stand pipe	150,000,000	5,000,000	208,333	97-75	97-75	80-70
Not allowed	Pumpage	Direct	133,000,000	4,400,000	183,333	70-130	40-110	40-110
None	Pumpage	Stand pipe	36,000,000	2,250,000	94,000	70	70	70
None	Pumpage	Direct	26,497,017	855,082	35,625	30-70	40-115	40-115
Valve required	Pumpage	Direct	63,487,255	2,193,798	91,408	100	90	30-50
Check required	Pumpage	Direct	60,100,000	2,000,000	83,333	50-100	50-100	50-100
None	Pumpage	Reservoir	92,000,000	3,125,000	130,208	110-140	90	0-105
No	Pumpage	Direct and stand pipe	18,171,838	605,720	25,000	80-130	40-90	40-90
Check required	Pumpage	Direct	120,000,000	4,000,000	166,667	80	65	40-100
None	Pumpage	Direct	164,176,197	5,386,104	224,421	100	95-100	30-100
None	Pumpage	Direct	54,093,095	1,778,404	74,100	65-135	45-115	25-135
Check required	Pumpage	Direct	37,200,000	1,300,000	54,166	70-125	50-120	50-120
None	Pumpage	Reservoir and direct	35,914,000	1,500,000	60,000	90	50-125	10-150
None	Pumpage	Reservoir	51,030,000	1,701,000	70,875	83	80-85	60
None	Both	Both	92,878,018	3,095,933	128,997	120	90-105	35-100
None	Pumpage	Reservoir	37,740,610	1,225,676	51,069	60-100	60-100	60-100
None	Pumpage	Direct	43,700,000	1,500,000	120,000	130	100-125	50-90
Not allowed	Pumpage	Both	37,500,000	1,250,000	54,000	70-130	30-90	30-90
....	Pumpage	Direct	....	....	....	55-110	....	....
None	Pumpage	Stand pipe	....	....	....	115	90	40-115
None	Pumpage	Direct and stand pipe	60,000,000	2,000,000	83,333	70-140	60-120	60-120
None	Pumpage	Stand pipe	35,000,000	1,250,000	51,200	45-110	45-110	45-110
Check required	Pumpage	Direct and reservoir	116,300,000	3,876,667	161,528	50-100	45-85	30-85
None	Pumpage	Both	26,130,000	858,000	358,000	212	65	40-80
No	Pumpage	Both	....	....	....	43-83	42-70	24-70
Not allowed	Pumpage	Direct	68,790,000	2,261,000	157,000	50-120	60-130	50-120
Check required	Pumpage	Direct	768,700,000	25,203,450	1,050,000	50	70-80	40-80
....	Both	Reservoir	81,214,590	2,707,153	112,798	80-85	80-85	80-85
No	Pumpage	Stand Pipe	16,666,667	555,555	23,148	....	40-100	40-100
....	Pumpage	Both	24,333,333	811,111	33,796	55-120	55-120	55-120
None	Pumpage	Stand Pipe	52,500,000	1,750,000	72,916	....	45	45

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Louisiana—con.								
New Orleans	Surface	......	......	......	Mississippi River	Yes	Yes	Yes
Maine								
Brunswick	Wells	2½	18-30	......	......	......	......	......
Maryland								
Baltimore	Surface	......	......	......	River	Yes	Yes	No
Cumberland	Surface	......	......	......	River	Yes	......	......
Hagerstown	Springs	......	......	......	......	Yes	Yes	No
Massachusetts								
Arlington	Surface	......	......	......	......	......	......	......
Beverly	Surface	......	......	......	Wenham Lake	No	No	......
Boston	Surface	......	......	......	Lake Cochituate, Sudbury and Nashua Rivers	No	No	No
Brockton	Surface	......	......	......	Lake	No	No	No
Brookline	Wells	2½	40-95	......	......	No	No	No
Cambridge	Surface	......	......	......	......	No	No	No
Chelsea	Surface	......	......	......	Metropolitan supply	No	No	No
Clinton	Surface	......	......	......	Improved reservoir	No	No	No
Concord	Surface	......	......	......	Ponds	No	No	No
Everett	Surface	......	......	......	Metropolitan supply	No	No	No
Fall River	Surface	......	......	......	Lake	No	No	No
Framingham	Surface	......	......	......	Filter galleries	No	No	No
Gardner	Surface	......	......	......	Crystal Lake	No	No	No
Gloucester	Surface	......	......	......	Improved reservoir	No	No	No
Haverhill	Surface	......	......	......	Ponds	......	......	......
Lowell	Wells	2½	40	......	......	......	......	No
Lynn	Surface	......	......	......	Art basins	No	No	No
Malden	Surface	......	......	......	Metropolitan supply	No	No	No
New Bedford	Surface	......	......	......	Lakes	No	No	No
Newburyport	Surface, wells and springs	......	......	......	River	No	No	No
Northampton	Surface	......	......	......	Mountain streams	No	No	No
Reading	Gallery	......	......	......	Filter gallery	Yes	No	No
Somerville	Surface	......	......	......	Metropolitan supply	No	No	No

of water supply, etc.—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATE OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
Check required	Pumpage	Direct	506,400,000	16,880,000	703,333	72	60–65	60–65
Check required	Pumpage	Stand pipe	14,833,333	494,444	20,602	105	80	55–80
Check required	Both	Reservoir	137,913,731	4,597,090	191,545	90–260	30–100	30–260
....	Gravity	Reservoir	180,000,000	6,000,000	250,000	115	100	50–60
....	Gravity	....	76,000,000	2,550,000	102,000	55–85	55–85	55–85
....	Both	Stand pipe	32,314,500	1,077,150	44,881	....	50–90	30–140
Check required	Pumpage	Direct	56,308,871	1,876,962	78,206	57	50	50
....	Both	Reservoirs	3,486,900,000	116,230,000	4,842,916	59–110	59–110	59–110
None	Pumpage	Reservoir	89,763,805	2,943,075	122,628	48–90	48–90	48–90
None	Pumpage	Reservoir	82,385,305	2,708,558	112,856	40–110	40–100	40–110
Not allowed	Pumpage	Reservoir	319,000,000	10,400,000	430,000	68	55–60	55–60
....	Gravity	....	83,843,400	2,701,400	112,550	....	48–53	41–96
No precautions	Gravity	....	19,291,273	632,501	26,354	98	90	12–120
Check required	Both	Reservoir	17,500,000	583,333	24,305	40–110	40–100	30–80
....	Gravity	Reservoirs	73,521,000	2,450,700	106,279	....	45–90	45–90
Check required	Pumpage	Direct	....	....	....	....	....	....
Check required	Pumpage	Stand pipe	24,998,436	819,621	34,130	80–88	....	....
None	Pumpage	Reservoir	22,700,000	756,667	31,527	45–150	....	....
Check required	Pumpage	Reservoir	39,996,331	1,311,355	54,639	15–75	15–75	15–75
....	Both	Reservoir	....	....	....	110	30–120	30–120
Not allowed	....	....	163,766,843	5,369,405	223,725	70	70	25–70
None	Pumpage	Both	205,886,426	6,750,375	281,265	....	50–65	50–70
....	....	....	....	....	....	....	50–100	50–100
Check required	Pumpage	....	252,500,000	8,280,000	345,000	25–90	25–90	25–90
None	Pumpage	Stand pipe	36,899,422	1,245,098	51,879	55–60	55–60	55–60
None	Gravity	....	60,000,000	2,000,000	83,333	40–100	40–100	40–100
None	Pumpage	Stand pipe	7,000,000	234,368	9,765	90	78–90	45–90
Check required	....	....	203,320,500	6,777,350	282,390	....	35–100	35–100

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Massachusetts—con.								
Springfield....	Surface	....	....	....	Little River	Yes	No	No
Taunton......	Ponds	....	....	....	Lakeville ponds	No	....	No
Waltham.....	Wells	40–60	28–30	4,000,000	....	No	No	No
Winthrop.....	Surface	....	....	....	Metropolitan supply	No	No	No
Michigan								
Adrian.......	Surface	....	....	....	Creek	Yes	No	No
Alpena.......	Surface	....	....	....	Lake Huron	Yes	Yes	No
Ann Arbor...	Wells and surface	2–8	....	....	....	Yes	Yes	No
Battle Creek .	Surface	....	....	....	Goguac Lake	No	Yes	No
Bay City.....	Surface	....	....	....	Saginaw Bay	....	Yes	No
Caldwell	Wells	6–40	50	3,000,000	....	No	No	No
Detroit.......	Surface	....	....	....	Detroit River	....	Yes	No
Escanaba.....	Surface	....	....	....	Green Bay	Yes	No	No
Flint.........	Surface	....	....	....	Flint River	Yes	....	....
Holland......	Wells	5	35–40	....	....	No	No	No
Ishpeming ...	Lakes	....	....	....	....	No	No	No
Jackson.......	Wells	6–14	350–400	....	....	No	No	No
Ludington ...	Surface	....	....	....	Lake Michigan	....	Yes	No
Marquette....	Surface	....	....	....	Lake Superior	Yes	Yes	No
Mt. Clemons.	Wells	6–15	30–50	....	....	No	No	No
Owosso.......	Wells	....	60–180	....	....	No	No	No
Saginaw......	Surface	....	....	....	Saginaw River	No	No	No
Traverse City	Surface	....	....	....	Traverse Bay	Yes	Yes	No
Minnesota								
Austin........	Spring and wells, deep rock	....	....	....	....	No	No	No
Duluth.......	Surface	....	....	....	Lake Superior	Yes	Yes	No
Minneapolis..	Surface	....	....	....	Mississippi River	Yes	Yes	No
St. Paul......	Lakes and wells	....	....	....	....	No	No	No
Stillwater	Lakes, wells and springs	8	600	....	....	No	Yes	No
Virginia......	Wells	8–12	350–826	2,016,000	....	No	No	....

of water supply, etc.—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
Not allowed	Gravity	....	320,650,000	10,660,000	444,167	....	140	80
Check required	Pumpage	Direct	72,018,958	2,367,747	98,655	70–110	65–105	50–90
None	Gravity	Direct	85,500,000	2,850,000	118,750	38.8	75	75
....	Gravity	Stand pipe	21,680,000	717,000	30,000	....	72	72
None	Pumpage	Direct	43,924,109	1,464,139	61,006	50–100	40–90	40–90
....	Pumpage	Direct	67,305,870	2,243,529	93,480	35–80	35–80	35–80
None	....	Reservoir	67,163,400	2,238,780	93,282	90	65	35–90
Check required	Pumpage	Stand pipe	63,000,000	2,000,000	83,333	45	80–87	40–88
Check required	Pumpage	Direct	205,795,906	6,747,407	281,142	40–100	35–90	35–80
No	Pumpage	Direct	41,332,500	1,377,750	57,406	60–110	60–110	60–110
Check and gate required	Pumpage	Direct	3,227,906,908	105,833,013	4,409,709	47–100	28	20–40
None	Pumpage	Direct	58,750,000	1,958,333	81,597	60–125	60–125	60–125
Not allowed	Pumpage	Direct	124,847,947	4,104,590	171,024	60–120	60–120	60–120
Check required	Pumpage	Direct	24,631,920	793,652	33,069	100–60	90–55	80–55
None	Both	Direct	36,500,000	1,216,667	50,694	30–90	40	18
Check required	Gravity	Reservoir	85,618,530	2,853,951	118,914	60–100	60–100	50–55
Check required	Pumpage	Direct	34,500,000	1,116,600	46,525	40–80	....	....
None	Pumpage	Direct	68,927,500	2,209,000	92,041	90–125	25–110	70–105
Not allowed	Pumpage	Direct	27,000,000	800,000	33,500	50–140	45–135	40–130
None	Pumpage	Direct	16,534,160	551,139	22,964	45–90	....	....
No	Pumpage	Direct	294,607,710	9,820,257	409,177	40–95	35–70	....
Check required	Pumpage	Direct	69,795,000	1,920,000	80,000	65	60	50
None	Pumpage	Direct	29,730,000	991,000	41,291	50–110	110	110
Not allowed	Pumpage	Reservoirs	232,650,000	7,648,000	318,667	....	90–125	5–225
....	Both	Reservoir	....	....	....	100	60	60
None	Pumpage	Reservoir	400,500,000	13,350,000	556,250	15–95	40	....
None	Both	Stand pipe	....	....	....	95	60–70	20–95
None	Pumpage	Stand pipe	18,000,000	600,000	25,000	45–120	42–120	40–115

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Mississippi								
Jackson	Surface				Pearl River	No	No	No
Meridian	Surface and springs					Yes	No	No
Yazoo City	Wells	4–8	840	2,000,000		No	No	No
Missouri								
Kansas City	Surface				Missouri River	Yes	Yes	No
Excelsior City	Wells	8	85	952,000		No	No	No
Independence	Surface				Missouri River	Yes	Yes	No
Moberly	Surface and wells	9	500–510			No	No	
St. Joseph	Surface				Missouri River	Yes	Yes	No
St Louis	Surface				Mississippi River	Yes	Yes	Yes
Sedalia	Surface and wells	8–12	200–450		Small River	Yes	No	No
Springfield	Springs					Yes	Yes	No
Montana								
Billings	Surface				Yellowstone River	No	No	No
Butte	Surface				Mountain streams	Yes	No	No
Nebraska								
Omaha	Surface				Missouri River	Yes	Yes	No
New Hampshire								
Concord	Surface				Penacook Lake	No	No	No
Dover	Ponds, springs and wells	8	350			Yes	No	No
Keene	Lakes					No	No	No
Manchester	Surface				Lake Massabesic	No	No	No
New Jersey								
Bridgeton	Surface				Creek	Yes	Yes	No
Camden	Wells	8	60–130			No	No	No
Newark	Surface				Pequaumock River	No	No	No
Garfield	Wells	10	300			No	No	No
Passaic	Surface				Passaic River	Yes	Yes	No
Paterson	Surface				Passaic River	Yes	Yes	No
Perth Amboy	Wells	6	70			No	No	No
Phillipsburg	Surface				River and spring			
Rahway	Surface				Rahway River	Yes	Yes	No
New Mexico								
Albuquerque	Wells	6–26	60–700			No	No	No
Las Vegas	Surface				Gallinas River	No	No	No
New York								
Auburn	Surface				Owosco Lake	Yes	Yes	No

of water supply, etc.—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
Check required	Pumpage	Both	97,500,000	3,250,000	135,415	100	30–75	30–75
None	Pumpage	Direct	77,128,500	2,600,000	108,000	75	75	50–72
None	Pumpage	Both	15,000,000	500,000	20,833	110–120	100	....
None	Pumpage	Reservoir	862,228,521	28,341,759	1,180,907	150	Less	Elevation
None	Pumpage	Reservoir	10,000,000	333,333	13,888	135	60	50–125
None	Pumpage	Stand pipe	25,000,000	830,000	34,500	185	100	100–140
None	Pumpage	Direct	90,000,000	3,000,000	125,000	90	55	55
Sealed valves	Pumpage	Reservoir	273,365,000	9,112,167	379,673	140	95–120	15–90
....	Pumpage	Both	2,463,000,000	82,100,000	3,420,833	85–125	50	15–85
None	Pumpage	Reservoir	63,000,000	2,375,000	98,958	107–150	40–90	40–90
No	Pumpage	Stand pipe	125,388,150	4,101,599	170,899	155	40–60	40–60
....	Pumpage	Reservoir	75,000,000	2,500,000	107,500	80	60-70	45–65
None	Both	Reservoir	270,000,000	9,000,000	375,000	....	105	60–150
None	Pumpage	Reservoir	627,500,000	20,900,000	870,000	115–140	90–120	50–125
Gates	Both	Reservoir	90,000,000	3,000,000	125,000	45–85	48–88	45
Checks and gates	Pumpage	Reservoir	16,787,500	550,890	22,950	85	85	85
None	Gravity	....	....	....	....	....	60	45–80
Checks and gates	Pumpage	Reservoirs	123,659,454	4,121,982	171,749	42	....	130
None	Pumpage	Stand pipe	42,300,000	1,380,000	57,500	15	....	55
Check valves	Pumpage	Direct	366,824,666	11,985,739	499,406	49½	35	40
None	Gravity	....	....	....	....	50	to	150
No	Pumpage	Direct	....	....	....	80	75	60–75
Check valves	Pumpage	Reservoir	159,000,000	5,300,000	220,833	60	40 to	100
Check	Pumpage	Reservoir	304,500,000	10,150,000	422,916	60	40	60
None	Pumpage	Stand pipe	202,658,190	6,755,273	281,469	110	45	35
....	Both	Reservoir	39,666,667	1,322,222	55,092	30	to	112
None	Pumpage	Stand pipe	60,386,283	2,012,876	83,869	....	45	....
None	Pumpage	Direct	....	....	....	90	90	40–90
None	Gravity	....	30,000,000	1,000,000	41,667	60	to	130
Check valves	Pumpage	Direct	200,650,500	6,688,350	278,681	60–100	60–130	25–135

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
New York—con.								
Binghamton	Surface	....	....	....	Susquehanna River	Yes	Yes	No
Buffalo.......	Surface	....	....	....	Lake Erie.......	No	No	No
Canandaigua.	Surface	....	....	....	Canandaigua Lake	No	No	No
Cortland.....	Surface	....	....	....	Springs	No	No	No
Dunkirk......	Surface	....	....	....	Lake Erie	No	No	No
Elmira........	Surface	....	....	....	River and improved reservoir	Yes	Yes	No
Geneva	Surface	....	....	....	Seneca Lake	Yes	No	No
Glen Falls....	Surface	....	....	....	Improved reservoir	No	No	No
Gloversville..	Surface	....	....	....	Improved reservoir	No	No	No
Huntington..	Wells	8	45–65	....	....	No	No	No
Jamestown...	Wells	6–8	95	6,000,000	....	No	No	No
Kingston.....	Surface	....	....	....	Mountain streams	Yes	No	No
Little Falls...	Surface	....	....	....	Mountain streams	No	No	No
Mt. Vernon ..	Surface	....	....	....	2 rivers	Yes	Yes	No
New Rochelle	Surface and wells	4½	26–90	....	Hutchinson River	No	Yes	No
Newburgh ...	Surface	....	....	....	Washington Lake	No	No	No
North Tonawanda......	Surface	....	....	....	Niagara River	No	No	No
Ogdensburg..	Surface	....	....	....	St. Lawrence River	Yes	No	No
Olean	Wells	5⅝–15	45	....	....	No	No	No
Ossining......	Surface	....	....	....	Improved reservoir	Yes	No	No
Peekskill.....	Surface	....	....	....	Lakes and brooks	Yes	No	No
Rensselaer ...	Surface	....	....	....	Hudson River	Yes	Yes	No
Seneca Falls..	Surface	....	....	....	Cayuga Lake	Yes	Yes	No
Schenectady .	Wells	8–50	45–60	18,000,000	....	No	No	No
Troy.........	Surface	....	....	....	Tomhannock Creek	No	Yes	No
Utica.........	Surface	....	....	....	West Canada Creek	Yes	Yes	....
Waterford....	Surface	....	....	....	Hudson River	No	No	No
Watertown...	Surface	....	....	....	Black River	Yes	Yes	No
White Plains.	Surface and wells	8–25	112–155	....	....	No	No	No
Yonkers......	Surface	....	....	....	Saw Mill River	Yes	Yes	No

of water supply, etc.—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
None	Pumpage	Both	215,852,190	7,195,073	299,794	65–80	....	....
Not allowed	Pumpage	Both	4,299,419,993	134,927,303	5,621,970	50–75	30	30
Checks	Pumpage	Reservoir	26,130,000	900,000	37,500	121	to	45
Checks	Pumpage	Stand pipe	35,496,564	1,163,822	48,492	70	75	75
None	Pumpage	Direct	130,618,389	4,353,946	181,414	60–125	....	....
....	Pumpage	Reservoir	178,000,000	5,933,333	247,222	41	70	70
No	Both	Reservoir	47,819,250	1,593,975	66,415	110	85	12–70
None	Gravity	....	67,500,000	2,500,000	104,167	80	to	125
Checks	Gravity	....	60,000,000	2,000,000	83,333	135	to	45
None	Pumpage	Reservoir	7,000,000	275,000	34,000	44–75	51	50–105
Check	Pumpage	Reservoir	90,000,000	3,000,000	125,000	125	125–150	50–100
No	Gravity	....	....	....	....	45	to	130
Flush system	Gravity	....	105,000,000	3,500,000	146,667	40	to	135
None	Pumpage	Stand pipe	95,630,145	3,187,671	132,820	130	50	30–50
None	Both	Stand pipe	96,711,017	3,170,853	132,119	110–65	35–100	35–100
None	Both	Reservoir	138,130,000	4,455,806	186,569	50–60	40–100	40–60
None	Pumpage	Direct	162,396,085	5,413,203	225,550	40	8 0	....
....	Pumpage	Direct	75,000,000	2,500,000	104,167	55–75	45 to	65
Check valves	Both	Reservoir	48,758,997	1,625,299	67,720	112	105	105
None	Pumpage	Reservoir	16,350,000	539,142	22,464	140	60–140	50–80
None	Pumpage	Both	90,000,000	3,000,000	125,000	160	100	80–160
Check valve	Pumpage	Reservoir	45,000,000	1,500,000	62,500	125	100–120	50–100
Check valve	Pumpage	Stand pipe	27,000,000	900,000	37,500	85	50	35–50
None	Pumpage	Direct	332,608,750	10,935,082	455,628	97	85	10–85
None	Gravity	....	....	18,000,000 maximum	....	....	50–60	20–120
Check valves	Pumpage	Direct and reservoir	233,250,000	7,775,000	323,958	100	to	40
None	Pumpage	Direct	12,622,916	414,068	17,152	82–100	75–85	50–85
Check valves	Pumpage	Reservoirs	155,035,000	5,083,150	211,798	....	....	....
None	Pumpage	Stand pipe	42,246,630	1,408,221	58,675	90	90–95	30–90
Check valves	Pumpage	Both	254,016,250	8,617,675	359,069	Static	pressure	

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
North Carolina								
Asheville	Surface				Mountain streams	No		
Durham	Surface				Eno River	Yes	Yes	
Elizabeth City	Surface				Knobbs Creek	Yes	Yes	Yes
Wilmington	Surface				River	Yes	Yes	No
North Dakota								
Grand Forks	Surface				Red Lake River	Yes	Yes	No
Ohio								
Canton	Wells					No	No	No
Cincinnati	Surface				Ohio River	Yes	Yes	No
Columbus	Surface				Scioto River	Yes	Yes	Yes
Conneaut	Surface				Lake Erie	Yes	No	No
Delaware	Wells	4-6-8	24-225			No	No	No
Elyria	Surface				Lake Erie	No	No	No
Fremont	Surface				Sandusky River	No	No	No
Marion	Wells	6-10	100-200			No	No	No
Massillon	Wells	6	200	1,500,000		No	No	No
Middletown	Wells	6-25	35			No	No	No
Newark	Surface			5,000,000	Infiltration intake	No	No	No
Piqua	Surface				Miami and Erie Canal	No	No	No
Springfield	Well	30	20			No		
Warren	Surface				Mahoming River	Yes	Yes	No
Youngstown	Surface				Mahoming River	Yes	No	No
Zanesville	Surface				Muskingum	Yes	Yes	No
Oklahoma								
Guthrie	Surface				Cottonwood River	Yes	No	No
Muskogee	Surface				River	Yes	Yes	No
Oklahoma City	Surface				North Canadian River	Yes	Yes	No
Shawnee	Surface				North Canadian River	Yes	No	No
Oregon	Surface				Cañon Creek	No	No	No
Keppner	Wells	8-12	700			No	No	No
Portland	Surface				River	No	No	No
Pennsylvania								
Allentown	Springs			14,000,000		No	No	No
Altoona	Surface and springs					No	No	No

of water supply, etc.—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
....	Gravity	....	45,666,667	1,522,222	63,426	Average 150		
Check valves	Pumpage	Reservoirs	34,000,000	1,133,333	47,222	60	to	120
None	Pumpage	Stand pipe	7,500,000	240,000	12,500	35–110	28–100	25–90
None	Pumpage	Direct and stand pipe	52,225,084	1,717,072	71,544	80	75	64
None	Pumpage	Direct	26,830,000	882,000	36,750	40	to	110
....	Pumpage	Direct	214,000,000	7,000,000	291,667	95	70	60
None	Pumpage	Both	1,568,922,400	51,440,000	2,143,000	10	to	150
Not allowed	Pumpage	Reservoir	501,897,000	16,456,000	685,667	80	55–65	15–70
....	Pumpage	Stand pipe	41,000,000	1,356,000	56,500	100–185	50–135	40–125
None	Pumpage	Direct and stand pipe	30,350,000	934,000	38,916	60	to	85
None	Pumpage	Direct	54,287,528	1,809,584	75,399	125	40	40
....	Both	Stand pipe	24,000,000	800,000	33,333	55	55	42
....	Pumpage	Direct and reservoir	48,765,450	1,552,181	64,674	70–130	40 to	100
Check valves	Pumpage	Stand pipe	27,454,714	900,155	37,506	90–120	80–110	60–90
Check valves	Pumpage	Direct	82,500,000	2,750,000	114,583	60–110	....	....
....	Pumpage	....	75,000,000	2,500,000	104,167	110	110	110
....	Gravity	Direct	....	....	....	50	35 to	40
Double check	Pumpage	Stand pipe	194,000,000	6,500,000	256,500	95	75	65
....	Pumpage	Stand pipe	27,761,000	978,000	38,900	60–150	55–145	....
Check gates	Pumpage	Stand pipe	293,910,000	9,797,000	408,209	90–140	80–85	25–90
None	Pumpage	Both	180,000,000	6,000,000	250,000	85–138	80–125	40–138
....	Pumpage	Stand pipe	....	....	....	70	to	130
No	Pumpage	Direct	105,000,000	3,500,000	146,667	125	75	75
Check valve	Pumpage	Direct	202,968,870	6,765,629	281,901	80	75	65
None	Pumpage	Stand pipe	22,000,000	733,333	30,555	90–140	55–100	50–90
No	Gravity	....	....	....	....	87	87	87
No	Pumpage	Direct	....	....	....	85–40	85–40	85–40
No	Gravity	....	Waste included	67,500,000	....	40	to	90
None	Gravity	Stand pipe	240,413,569	7,844,212	328,092	35	to	100
....	Gravity	....	145,815,000	4,419,380	184,140	69	60	60

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
Pennsylvania—con.		*inches*	*feet*					
Bradford.....	Wells and surface	10	165	2,000,000	....	No	No	No
Erie..........	Lake Erie	....	....	....	....	Yes	Yes	No
Duquesne....	Wells	12	70	....	Rock wells	No	No	....
Johnstown...	Mountain streams	....	....	....	....	Yes	Yes	No
McKeesport..	Youghiogheny River	....	....	....	....	Yes	....	Yes
Philadelphia.	Schuylkill River	....	....	....	....	Yes	Sometimes	No
Lebanon	Springs	....	....	....	....	No	No	No
Meadville	Wells	5⅝	60	....	Shallow gravel	No	No	No
Nazareth	Wells and mountain	6–8	450	....	Deep rock	No	No	No
New Holland	Springs	....	....	....	....	No	No	....
North East..	Springs	....	....	....	....	Yes	Yes	No
Reading......	Surface and creeks	....	....	....	....	Yes	No	No
Sharon.......	Shenango River	....	....	....	....	Yes	Yes	No
Shenandoah..	Wells and streams	10	995	....	Deep rock springs	No	No	No
Sunbury	Surface	....	....	....	Little Shamokin Creek	Yes	....	....
Wilkinsburg..	Surface	....	....	....	Allegheny River	Yes	Yes	No
Williamsport.	Surface and wells	30	30	13,000,000	Mountains and streams	No	No	No
Rhode Island								
Providence...	Surface	....	....	....	Pawtuxet River	Yes	....	No
South Carolina								
Charleston ...	Surface	....	....	....	Improved reservoir	Yes	Yes	No
Columbia	Surface	....	....	....	Congaree River	Yes	Yes	No
South Dakota								
Mitchell......	Wells	8	550–800	701,280	Deep rock	No	No	No
Tennessee								
Clarksville...	Surface	....	....	....	Cumberland River	Yes	Yes	No
Jackson	Wells	6	100	100,000	....	No	No	....
Memphis.....	Wells	....	500	....	Artesian	No	Sometimes	....
Nashville	Surface	....	....	....	Cumberland	Yes	Yes	No

of water supply, etc.—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
....	....	....	....	2,000,000	....	85	85	85
Check valve	Pumpage	Direct and reservoir	478,213,528	15,679,132	653,297	92–125	35–92	35–92
....	Pumpage	Stand pipe	22,000,000	750,000	26,750	184	175	50–175
Check and double gate	Gravity tanks and pumpage	....	308,400,000	10,280,000	430,000	70	to	80
....	Gravity tanks and pumpage	Reservoir	117,756,900	3,871,460	161,298	60–130	60 to	120
....	Pumpage	Reservoir	9,732,000,000	319,000,000	13,200,000	35	to	170
....	Gravity	Sometimes reservoir	68,000,000	2,280,000	950,000	65	65	65
None	Pumpage	Reservoir	59,789,712	1,965,689	819,065	130	115	30–115
None	Gravity	....	39,000,000	1,300,000	541,666	50	to	120
....	Gravity	....	....	....	....	50	50	50
None	Gravity	....	13,500,000	450,000	187,500	80	to	90
Check	Pumpage and gravity	Reservoir	435,599,638	14,321,084	596,712	120	50	55
None	Pumpage	Reservoir	73,467,016	2,449,000	102,000	120	to	135
None	Pumpage and gravity	Reservoir	53,160,000	1,740,000	725,000	90	80	80
None	Pumpage	Partly reservoir	78,840,432	2,628,014	109,500	80	55–100	55–100
Check	Both	....	255,778,500	8,525,950	355,250	....	30–210	100–185
None	Both	Direct	180,000,000	6,000,000	250,000	70	50	25–50
Not permitted	Both	Partly reservoir	533,388,506	17,488,148	728,173	....	65–73	18–97
....	Pumpage	Direct	150,000,000	5,000,000	203,000	120	45	45
Hand valve and check	Pumpage	Stand pipe	135,000,000	4,500,000	187,500	125	55–110	55–110
None	Pumpage	Reservoir	9,000,000	300,000	12,500	75	to	125
Check	Pumpage	Direct	285,000,000	9,500,000	400,000	40	to	50
No connection	Pumpage	Direct	80,500,000	2,550,000	19,000	80	55	70–20
Check	Pumpage	Reservoir	409,570,440	13,652,348	568,847	60–75	50	40
....	Gravity	Reservoir	368,820,434	12,125,603	520,000	160	90–100	30–60

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Texas								
Galveston	Wells	7	800	8,000,000	Artesian	No	....	....
Denison	Wells and surface	....	....	....	Rain fall, shallow gravel	No	....	....
El Paso	Wells	8–14	....	....	Deep	No	....	....
Laredo	Surface	....	....	....	Rio Grande River	Yes	No	....
San Antonio	Wells	6–10	630–880	50,000,000	Artesian	No	No	No
Temple	Surface	....	....	....	River	Yes	Some	....
Waco	Wells	....	40 and 1800	....	Shallow and artesian	No	No	No
Utah								
Ogden	Surface	....	....	....	Mountain streams	No	No	No
Salt Lake City	Surface	....	....	....	Springs and mountain streams	No	No	No
Vermont								
Burlington	Surface	....	....	....	Lake Champlain	Yes	Yes	....
Manchester	Springs	....	....	....	Mountain springs	No	No	No
Rutland	Surface	....	....	....	Creek and brooks	Yes	Yes	No
Virginia								
Lynchburg	Surface	....	....	....	Pedlar River	No	No	No
Richmond	Surface	....	....	....	River	Yes	No	....
Roanoke	Surface	....	....	....	Springs	....	....	....
Washington								
Anacortes	Surface	....	....	....	3 small lakes	No	....	....
Hoquiam	Surface	....	....	....	Mountain streams	No	No	No
Marcus	Surface	....	....	....	Columbia River	No	No	No
N. Yakima	Surface	....	....	....	Natches River	Yes	Yes	No
Seattle	Surface	....	....	....	Cedar River	No	....	....
Spokane	Wells	25	40	....	....	No	No	....
Tacoma	Wells	10–12 20 feet	46–200	....	Deep wells	No	No	....
Walla Walla	Surface	....	....	....	Mountain streams	No	....	....

of water supply, etc—continued

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
....	Both	Reservoir	105,000,000	3,500,000	145,833	40	to	100
None	Pumpage	Stand pipe	30,000,000	1,000,000	41,666	175	80	80
None	Pumpage	Direct and reservoir	125,000,000	4,000,000	166,666	75	85	75
None	Pumpage	Stand pipe	31,000,000	1,200,000	69,000	63–85	30–55	30–55
Not connected	Pumpage	Direct	410,939,239	13,510,331	562,930	80–90	75–90	40–65
None	Pumpage	Partly direct reservoir	34,000,000	1,133,333	555,055	60–120	55 to	110
None	Pumpage	Reservoir	187,500,000	6,250,000	260,415	80	65	25–65
None	Gravity	Direct	....	....	....	90	90	90
None	Gravity	Reservoirs	660,000,000	22,000,000	916,666	85	to	190
Check valves	Pumpage	Reservoirs	414,310,640	13,812,354	575,514	125	75–125	10–75
None	Gravity	Direct	....	....	....	....	....	....
....	Gravity	Reservoir	90,000,000	3,000,000	125,000	95	60 to	95
Check	Gravity	....	....	....	....	....	100–150	12–50
No connection	Pumpage	Reservoirs and stand pipe	437,513,644	14,638,244	609,927	70–115	20–80	16–65
....	Pumpage	Reservoir	128,797,839	4,222,880	175,953	....	75	50–75
None	Gravity	....	....	....	....	....	80	....
None	Both	Reservoirs	50,886,067	1,696,202	706,700	90	90	90
....	Pumpage	Partly reservoir	....	....	....	80	80	80
No connection	Both	....	....	....	....	80	80	80
Not allowed	Both	Reservoir and stand pipe	....	....	....	10	to	160
Check	Pumpage	Reservoir and stand pipe	973,880,750	32,496,025	1,354,011	30	to	165
Check	Pumpage	Direct reservoir and stand pipe	450,000,000	15,000,000	625,000	84–90	105–175	20–60
....	Gravity	....	....	175 gallons per capita, 110			....	....

Information relative to source

CITY	SOURCE OF SUPPLY	IF FROM WELLS			SURFACE SUPPLY	IS WATER TREATED?	IS HYPOCHLORIDE OF LIME USED?	IS SOFTENING SYSTEM USED?
		Diam.	Depth	Quantity daily				
		inches	*feet*					
Wisconsin								
Ashland......	Surface	....	....	....	Lake Superior	Yes	Yes	No
La Crosse	Surface	....	....	....	Mississippi River	No	No	....
Madison......	Wells	8-10	700-1000	....	....	No	No	No
Marinette	Surface	....	....	....	Lake Michigan	Yes	Some	No
Racine.......	Surface	....	....	....	Lake Michigan	Yes	Yes	....
Superior	Wells	6-8	....	....	....	Yes	No	No
Waukesha....	Wells	6	860	Each 500,000	....	No	No	....
Beloit........	Wells	4-30	40-88	8,000,000	....	No	No	No
Green Bay...	Wells	8-20	850-933	....	Artesian	No	....	....
Milwaukee ...	Surface	....	....	....	Lake Michigan	Yes	Yes	No
Cheyenne....	Surface	....	....	....	Mountain streams	No	No	No

of water supply, etc.—concluded

NO. 9	GRAVITY OR PUMPAGE	TO STAND PIPE OR RESERVOIR	AVERAGE RATES OF CONSUMPTION			PRESSURE		
			One month	One day	One hour	Station	Business district	Residence district
			gallons	*gallons*	*gallons*	*pounds*	*pounds*	*pounds*
Check	Pumpage	Direct	36,034,457	1,181,060	487,500	65–120	45–120	20–120
....	Pumpage	Direct	84,057,591	2,755,986	....	60	to	100
Check	Pumpage	Stand pipe	59,600,000	1,980,000	150,000	85–125	70 to	110
Check	Pumpage	Direct	40,000,000	1,300,000	....	40	to	110
Check	Pumpage	Direct and stand pipe	104,800,000	3,400,000	....	55	to	100
No connection	Pumpage	Direct	61,300,000	2,010,000	837,500	65–135	55–110	55–110
....	Pumpage	Direct	....	....	....	65–100	68	30–65
Check	Pumpage	Stand pipe	65,000,000	2,000,000	833,333	55	50–55	35–45
No connection	Pumpage	Reservoir	44,218,733	1,449,802	....	40	40	40
Check	Pumpage	Direct reservoir and stand pipe	145,046,465	47,556,310	2,000,000	68–100	50–60	20–50
None	Gravity	....	111,000,000	3,610,000	151,000	110	to	120

Information relative to public fire service

TOWN	PER CENT OF FIRES WHERE STEAMERS ARE USED	DO YOU HAVE SEPARATE HIGH PRESSURE SYSTEM	IF SO, TO WHAT EXTENT	ANNUAL REVENUE		WHO MAINTAINS HYDRANTS AND VALUES?	HYDRANT CONNECTIONS			DESCRIPTION OF FIRE HYDRANT			DO HYDRANTS CONFORM TO THE NATIONAL STANDARD
				Per hydrant	Total		4"	6"	8" and larger	4½" steamer connection and no 2½" hose connection	One 4½" steamer connection and one or more 2½" hose connection	One or more 2½" hose connection and no 4½" steamer connection	
Anniston, Ala.	...	No	...	$45.00	$5,850.00	Water company	130	...	...	...	...	130	Yes
Bessemer, Ala.	None	No	...	50.00	5,150.00	Water company	40	63	...	40	...	63	Yes
Mobile, Ala.	10	No	...	No hydrant	Rental	Water department	727	247	...	...	50	924	Yes
Phoenix, Ariz	5	No	...	No hydrant	Rental	Water department	200	80	...	...	280	...	Yes
Fort Smith, Ark	Used but not given	No	...	$40.00 to 60.00	$28,000.00	Water department	...	...	...	...	...	...	...
Pine Bluff, Ark	None	No	...	40.00 to 43.00	12,924.24	Water company	275	37	...	...	27	285	...
Pomona, Cal.	None	Yes	In business district only	3.00	735.00	City of Pomona	...	...	...	...	...	245	Yes
Sacramento, Cal	...	No	...	No hydrant	Rental	Water department	560	...	...	8	132	420	...
San Diego, Cal.	No data	No	...	$25.00	$19,650.00	Water department	157	314	314	...	314	471	Yes
San Francisco, Cal.	No data	Yes	72 miles	2.50	11,052.50	Fire department and company jointly	2,627	1,439	355-2½"	2-3" Con.	...	...	No
Stockton, Cal.	100	No	...	12.00	3,000.00	City	175	175	75	No detail	No detail	...	...
Colorado Sprgs, Col.	None	No	...	30.00	13,860.00	Water department	318	174	12	...	146	358	Yes
Denver, Col.	10	No	...	22.50	73,620.00	Water company	...	3,772	...	...	3,772	...	Yes
Bristol, Conn	None	No	...	...	1,750.00	Water company	...	...	...	...	...	130	Yes
Hartford, Conn.	...	No	...	2.00	2,734.00	...	...	...	...	...	341	1,026	...

Manchester, Conn	None	No		$30.00	$1,020.00	Water company	24	10				34	Yes
Meriden, Conn	All if necessary	No				Water department							Yes
New Britain, Conn	2	Yes	In high localities			Water department		608				608	Yes
New Haven, Conn	All	No				Water department						1,000	
New London, Conn	Very small	No				Water department	7	356				363	Nearly
Stamford, Conn	10	No		15.40	3,600.00	City of Stamford	No Record, Owned by city						
Wilmington, Del	No Record	No				Water department		935			935		Yes
Washington, D. C	100	No				Water department		1,445	1,666		1,666	1,445	
Jacksonville, Fla	Most fires	Yes	In business districts	30.00	20,550.00	Water department		700				700	Yes
Miami, Fla	1	No		No hydrant	Rental	City of Miami	105						Yes
Athens, Ga	None	No			Free tax	Water department		248			9	239	Yes
Atlanta, Ga	No data	No		$25.00		Water department							Yes
Macon, Ga	25	No		37.50	$18,637.50	Water company	10	487			348	149	Yes
Downey, Idaho	None			12 and 60		Water company	2					2	Yes
Aurora, Ill	1 time in 7 years	No				Water department	1	542	66			609	Yes
Champaign, Ill	None	No		40 and 35	12,300.00	Water company		351				351	Yes
Decatur, Ill	1	No				Water department	300	314			150	464	No
Elgin, Ill	None	No		10.00	4,830.00	Water department		482	1			483	Yes
Dixon, Ill	None	No		35.00	6,860.00	Water company	195	1				196	Yes
Freeport, Ill	None	No		62.50	12,500.00	Water company	118	82				200	No
Kankakee, Ill	None	No		40.00	9,560.00	Water company	239					239	Yes
Lake Forest, Ill	None	No		Rates	Undecided	City	115					115	Yes
Lincoln, Ill	None	No		$35.00	6,650.00	Water company	190					190	Yes
Oak Park, Ill	None	No		20 and 10	12,360.00	Water department	305	485			344	446	Partly
Peoria, Ill	2	No		52–41.60–25	50,299.00	Water company	616	655	110		165	1,216	Yes
Quincy, Ill	100	No		43–30 20	13,640.00	Water company	3	404		53	354		No
Rockford, Ill	100	No				Water department	432	217			334	315	Yes
Springfield, Ill		No				Water department	863	863			21	842	No
Streator, Ill	None	No		45 and 35	10,850.00	Water company	190	88			112	166	No
Anderson, Indiana	None	No		39.84	15,000.00	Water department	12	367			80	299	No
Brazil, Ind	None	No				Water department	136					136	

Information relative to public fire service—Continued

TOWN	PER CENT OF FIRES WHERE STEAMERS ARE USED	DO YOU HAVE SEPARATE HIGH PRESSURE SYSTEM	IF SO, TO WHAT EXTENT	ANNUAL REVENUE		WHO MAINTAINS HYDRANTS AND VALUES?	HYDRANT CONNECTIONS			DESCRIPTION OF FIRE HYDRANT			DO HYDRANTS CONFORM TO THE NATIONAL STANDARD
				Per hydrant	Total		4"	6"	8" and larger	4½" steamer connection and no. 2½" hose connection	One 4½" steamer connection and one or more 2½" hose connection	One or more 2½" hose connection and no. 4½" steamer connection	
Elkhart, Ind	9	No		$40.00	$13,100.00	Water company	305	38				343	Yes
Evansville, Ind	5	No				Water department	50	684			21	713	Yes
Fort Wayne, Ind	All fires	No				Water department	15	808	18				Yes
Gary, Ind	None	No		50 and 40	14,470.00	Water company		343			40	303	Yes
Hammond, Ind	100	No		Taxes approx.	12,000.00	Water department	250	106	1		357		Yes
Indianapolis, Ind	1	No		$45.00		Water company							Yes
Jeffersonville, Ind	None	No		60-52.10-50	7,790.00	Water company	2	147				149	Yes
Kokomo, Ind		No		25.00	9,925.00	Water company						390	
Logansport, Ind	None	No				Water department	217	217				217	Yes
Marion, Ind	None	No				Water department	122	224				346	Yes
Mishawaka, Ind	None	No		Taxes approx.	9,000.00	Water department	125	50	1			176	Yes
New Castle, Ind						Water department	120	5				125	Yes
Richmond, Ind	None	No		$55 and 49	15,875.00	Water company		325				325	Yes
South Bend, Ind	None	No				Water department	23	997				1,020	Yes
Terre Haute, Ind	¼	No		40.00	43,120.00	Water company	300	778			3	1,075	Yes
Vincennes, Ind	None	No		33.33⅓	9,400.00	Water company		275			20	255	Yes
Valparaiso, Ind	None	No		50.00	7,100.00	Water company						142	
Washington, Ind	None	No		34.25	6,600.00	Water company	190	4				194	No
Burlington, Ia	None	No		Taxes approx. ave.	19,000.00	Water company	283	191				474	No

Clinton, Ia.	...	No	...	$42.00	$16,270.00	Water company	...	...	...	...	...	386	...
Council Bluffs, Ia.	None	No	...	56.00	20,344.00	Water company	300	62	...	...	31	331	Yes
Creston, Ia.	None	No	...	55.00	7,850.00	Water company	142	...	...	...	...	142	Yes
Davenport, Ia	None	No	...	38.00	29,184.00	Water company	220-5	544	4	...	...	768	No
Des Moines, Ia.	None	No	...	33.50	55,741.00	Water company	810	855	...	...	20	1,645	Yes
Iowa City, Ia	...	No	...	45.00	9,360.00	Water company	208	...	...	...	...	...	...
Keokuk, Ia.	...	No	...	50.00	8,000.00	Water company	...	...	...	...	...	160	...
Muscatine, Ia	None	No	...	...	...	Water department	25	332	...	...	...	357	No
Ottumwa, Ia.	None	No	...	...	...	Water department	100	182	...	...	...	282	...
Sioux City, Iowa	5	No	...	...	...	Water department	350	119	...	...	119	350	No
Waterloo, Ia	None	No	...	By taxes approx. ave.	17,000.00	Water department	254	201	...	...	27	428	Yes
Atchison, Kan.	Nearly all	No	...	$33.20	6,040.00	Water company	82	100	...	...	84	98	Yes
Fort Scott, Kan.	None	No	...	20.00	4,000.00	Water department	200	...	...	...	...	200	Yes
Hutchison, Kan.	None	No	...	...	...	...	...	...	...	...	...	...	...
Lawrence, Kan.	None	No	...	...	5,400.00	Water company	69	102	...	...	...	170	No
Parsons, Kan.	None	No	...	60 and 50	7,950.00	...	149	...	...	...	...	149	...
Pittsburg, Kan.	None	No	...	46 and 45	11,530.00	Water department	138	116	...	...	17	237	Yes
Wichita, Kan.	...	No	...	37.50	25,975.00	Water company	...	...	...	...	...	672	...
Danville, Ky.	None	No	...	...	...	Water department	108	12	...	...	...	120	No
Henderson, Ky	None	No	...	...	...	Water department	8	181	...	...	...	189	Yes
Lexington, Ky.	None	No	...	50.00	30,250.00	Water company	543	62	...	...	18	587	No
Louisville, Ky.	100	No	...	...	...	Fire department	...	1,955	...	1,955	...	...	Yes
Newport, Ky	None	No	...	...	...	Water department	230	30	...	...	...	260	Yes
Alexandria, La.	None	No	...	...	...	Water department	126	...	...	...	...	126	...
Baton Rouge, La.	None	No	...	50.00	6,850.00	Water company	...	...	...	...	...	137	Yes
Lake Charles, La.	None	No	...	60 and 40	6,400.00	Water company	141	...	...	...	...	141	...
New Orleans, La.	Small	No	...	...	...	Water department	4,443	660	...	...	686	4,417	No
Brunswick, Maine	...	No	...	40.00	4,920.00	Water department	...	122	1	...	93	30	Yes
Baltimore, Md.	...	...	...	...	7,541.67	...	...	...	...	...	324	...	...
Cumberland, Md	None	No	...	...	...	Water department	...	...	...	...	...	253	...
Hagerstown, Md	10	No	...	17.26 and 45	3,070.00	Water company	41	63	...	...	11	93	Yes
Arlington, Mass.	None	No	...	...	7,000.00	Water department	...	430	...	...	75	355	Yes
Beverly, Mass.	Very small	No	...	...	...	Water department	196	259	14	...	469	...	Yes

Information relative to public fire service—Continued

TOWN	PER CENT OF FIRES WHERE STEAMERS ARE USED	DO YOU HAVE SEPARATE HIGH PRESSURE SYSTEM	IF SO, TO WHAT EXTENT	ANNUAL REVENUE		WHO MAINTAINS HYDRANTS AND VALUES?	HYDRANT CONNECTIONS			DESCRIPTION OF FIRE HYDRANT			DO HYDRANTS CONFORM TO THE NATIONAL STANDARD
				Per hydrant	Total		4"	6"	8" and larger	4½" steamer connection and no 2½" hose connection	One 4½" steamer connection and one or more 2½" hose connection	One or more 2½" hose connection and no 4½" steamer connection	
Boston, Mass.								8,234					
Brockton, Mass.		No				Water department		1,054			1,054		No
Brookline, Mass.	25	No				Water department		744	1		745	745	
Cambridge, Mass.	10	No				Water department		1,121	4		1,125		No
Chelsea, Mass.	10	Yes	Not Ext.		$2,492.00	Water department	6	260	45		311		Yes
Clinton, Mass.	100	No		$25.00	4,625.00	Water department	32	158			100	90	Yes
Concord, Mass	None	No		12.00	2,520.00	Water department	94	130			224		
Everett, Mass.	3	Yes	Small satisfactory			Water department		559			559		Yes
Fall River, Mass	Rarely used	No				Water department		1,408			1,408		Yes
Framingham, Mass.	10	No		27.50	6,600.00	Water department	90	148	1		149	90	No
Gardner, Mass.	Respond to all fires	Yes	Gravity satisfactory		6,800.00	Water department	77	105	1	105		77	No
Gloucester, Mass.		No		Approp.	4,000.00	Water department		329			329		Yes
Haverhill, Mass.	Very small	Yes	Satisfactory			Fire department							Yes
Lowell, Mass.		No				Water department		1,275	8			1,283	Yes
Lynn, Mass.	Very small	No				Water department	30	1,130	26		1,183	3	
Malden, Mass		Yes	Business and Mfg. Dist.			Water department	353	155	1		509		Yes
New Bedford, Mass	Respond to all fires	No				Water department	150	1,045	5	71	1,123	6	No
Newburyport, Mass.	100	No			5,000.00	Water department		245			245		
Northampton, Mass.		No				Water department	303	102				405	Yes

Reading, Mass.	5	No		$30.00	$5,610.00	Water department		188	4		180	12	Yes
Somerville, Mass.		No				Water department	200	889	10		899	200	
Springfield, Mass.		No				Water department	482	879	78		1,466		Yes
Taunton, Mass.	1	No				Water department	87	742	3		3	829	Yes
Waltham, Mass.	100	No		6.00	2,856.00	Water department		476					Yes
Winthrop, Mass	10	No			3,000.00	Water department	80	161			229	12	Yes
Adrian, Mich	None	No		50.00	7,950.00	Water company	159					159	Yes
Alpena, Mich.	1	No		40.00	9,560.00	Water department	241				5	236	Yes
Ann Arbor, Mich.	Rarely	No		40 and 45	10,000.00	Water company		246	12		258		Yes
Battle Creek, Mich.	1	No				Water department	260	422	1		300	382	Yes
Bay City, Mich	1	No				Water department	832	60				892	No
Coldwater, Mich	50	No			5,000.00	Water department	12	86	22		12	108	Yes
Detroit, Mich.	60	Yes	7 miles satisfactory			Fire department		5,699	150	5,849			Yes
Escanaba, Mich.	40	No		50 and 38	7,412.00	Water company	94	127				221	Yes
Flint, Mich.		No			10,520.00	Water department	314	50	15				No
Holland, Mich	None	No		Cr. $35.00	10,080.00	Water department	169	119			78	210	
Ishpeming, Mich.	2	No				Water department	139				3	136	Yes
Jackson, Mich.	100	No				Water department	674	20			20	674	Yes
Ludington, Mich.	None	No		40.00	9,000.00	Water department	225					225	No
Marquette, Mich.	None	No		50.00	16,125.00	Water department	195	6				201	
Mt. Clemens, Mich	None	No				B of P. W.	198	18				216	Yes
Owosso, Mich	None	No				Water department	190				2	188	Yes
Saginaw, Mich	Small	No				Water department	696	251			167	780	Yes
Traverse City, Mich.	1	No		27.00	7,074.00	Water department	No	record			30	232	
Austin, Minn.	None	No		10.00	1,020.00	Water department	102					102	No
Duluth, Minn.	5	No		50.00	47,950.00	Water department	959			1	933	25	Yes
Minneapolis, Minn		No				Water department		5,059			5,059		No
St. Paul, Minn.	100	No		14.00	46,102.00	Water department		3,293		252	3,041		Yes
Stillwater, Minn.	67	Yes	⅓ mile	63.18	9,540.00	Water department	4	147			151		
Virginia, Minn.	1	No		60 and 100	9,000.00	Water department	104	6					Yes
Jackson, Miss	3	No				Water department	200	310			310	200	Yes
Meridian, Miss.	None	No		25.00	10,000.00	Water department	110	290			70	330	Yes
Yazoo City, Miss.	None	No		50.00	8,350.00	Water department	167					167	Yes
Kansas City, Mo.	5	No				Water department					6,000		No
Excelsior Springs, Mo	None	No		50.00	3,250.00	Water department	55	10				65	Yes

Information relative to public fire service—*continued*

TOWN	PER CENT OF FIRES WHERE STEAMERS ARE USED	DO YOU HAVE SEPARATE HIGH PRESSURE SYSTEM?	IF SO, TO WHAT EXTENT?	ANNUAL REVENUE		WHO MAINTAINS HYDRANTS AND VALUES?	HYDRANT CONNECTIONS			DESCRIPTION OF FIRE HYDRANTS			DO HYDRANTS CONFORM TO THE NATIONAL STANDARD?
				Per hydrant	Total		4"	6"	8" and larger	4½" steamer connection and no 2½" hose connection	One 4½" steamer connection and one or more 2½" hose connection	One or more 2½" hose connection and no 4½" steamer connection	
Independence, Mo	None	No	....	$47 and $40	$5,680.00	Water company	127	....	....	....	....	127	Yes
Moberly, Mo.	None	No	....	....	....	Water department	93	....	....	....	....	93	....
St. Joseph, Mo.	Seldom used	No	....	$40.00	43,240.00	Water company	....	1,081	....	....	648	433	No
St. Louis, Mo	100	No	....	....	....	Water department	....	11,083	20	6,600	....	4,503	Yes
Sedalia, Mo	None	No	....	30.00	6,870.00	Water company	169	60	....	....	229	....	No
Springfield, Mo.	75	No	....	....	15,040.00	Water company	....	376	....	....	319	57	....
Billings, Mont.	40	No	....	59.55	10,125.00	....	71	99	....	....	75	95	Yes
Butte, Mont.	None	No	....	50.00	26,100.00	Water company	492	30	....	....	....	522	Yes
Omaha, Neb.	....	No	....	....	....	Water department	....	2,047	....	....	1,800	247	....
Concord, N. H.	Very small	Yes	In business district	....	....	Water department	6	407	17	....	413	17	Yes
Dover, N. H.	Seldom	No	....	....	4,000.00	Water department	....	218	....	7	....	211	Yes
Keene, N. H.	Nearly all	No	....	....	....	Water department	268	13	1	....	1	281	No
Manchester, N. H.	....	No	....	25.00	23,075.00	Water department	....	941	....	....	941	....	Yes
Bridgeton, N. J.	Nearly all	No	....	....	....	B. of P. W.	275	....	....	....	275	....	Yes
Camden, N. J.	100	No	....	....	....	Water department	300	597	....	....	600	297	Yes
Newark, N. J.	100	Yes	Business district	....	....	Water department	2,192	866	9	....	....	....	Yes
Garfield, N. J.	None	No	....	25.00	4,000.00	Water department	150	10	....	....	10	150	Yes
Passaic, N. J.	1	No	....	20–53.13	19,000.00	Water company	211	431	....	....	371	268	Yes
Paterson, N. J.	100	No	....	30.00	43,755.00	Water company	1,179	245	16	....	475	960	Yes
Perth Amboy, N. J.	20	No	....	....	....	Water department	105	203	....	....	168	140	Yes

Phillipsburg, N. J.	5	No		$20.00	$2,060.00	Water company							
Rahway, N. J.	Seldom	No				Water department	178	12				190	Yes
Albuquerque, N. M	10	No		35–50	9,270.00	Water company	227				24	198	Yes
Las Vegas, N. M	None	No		20.00	1,260.00	Water company	63					63	Yes
Auburn, N. Y.	1	No		17.00	11,118.00	Water department	153	511				664	Yes
Binghamton, N. Y	100	No				Water department		855					Yes
Buffalo, N. Y.	100	Yes	But not connected to water department	15.00	78,150.00	Water department		5,210			5,210		Yes
Canandaigua, N. Y	None	No				Water department	34	138				172	No
Cortland, N. Y.	2	No		33.33⅓	7,266.67	Water department	211	7				218	Yes
Dunkirk, N. Y.	None	No				Water department	174	25			25	174	Yes
Elmira, N. Y.	5	No		All purposes	19,000.00	Water company	163	350			513		Yes
Geneva, N. Y.	3	No		$10.00	2,860.00	B. of P. N.	286				67	219	Yes
Glens Falls, N. Y.	None	No				Water department	272	60			202	130	No
Gloversville, N. Y.	None	No				Water department	300	46				346	No
Huntington, N. Y.	None	No		30.00	1,986.25	Water company	91	1				92	No
Jamestown, N. Y.	10	No			12,000.00	Water department					15	460	
Kingston, N. Y.	None	No				Water department	479					479	Yes
Little Falls, N. Y.	None	1 St.			3,500.00		115	35			145	5	No
Mount Vernon, N. Y	100	No		30.00	21,240.00	Water company	708				500	207	Yes
New Rochelle, N. Y.		No		30.00	26,280.00	Water company	874	2			876		
Newburgh, N. Y.		No				Water company	414					414	Yes
North Tonawanda, N. Y.	None	No				Water department	380					380	Yes
Ogdensburg, N. Y.	25	No				Water department	80	131		1		210	No
Olean, N. Y.	None	No				Water department	275	45				320	Yes
Ossining, N. Y.	10	No				Water department	185	2				187	No
Peekskill, N. Y.	Seldom	Yes				Fire department							Yes
Rensselaer, N. Y.	None	No		40.00	7,680.00	Water company	157	35				192	Yes
Seneca Falls, N. Y.	2	No		40.00	3,400.00	Water company	43	42			85		No
Schenectady, N. Y.	25	No		Assessment	80,000.00	Water department							Yes
Troy, N. Y	100	No				Water department	1,055	20		1,000	75		No
Utica, N. Y.		No			41,046.00	Water company	643	507	31		559	622	No
Waterford, N Y		No		$25 and $50	4,275.00	Water company	97	4			14	87	No

Information relative to public fire service—continued

TOWN	PER CENT OF FIRES WHERE STEAMERS ARE USED	DO YOU HAVE SEPARATE HIGH PRESSURE SYSTEM?	IF SO, TO WHAT EXTENT?	ANNUAL REVENUE		WHO MAINTAINS HYDRANTS AND VALUES?	HYDRANT CONNECTIONS			DESCRIPTION OF FIRE HYDRANT			DO HYDRANTS CONFORM TO THE NATIONAL STANDARD?
				Per hydrant	Total		4"	6"	8" and larger	4½" steamer connection and no 2½" hose connection	One 4½" steamer connection and one or more 2½" hose connection	One or more 2½" hose connection and no 4½" steamer connection	
Watertown, N. Y.	50	No				Water department	426						Yes
White Plains, N. Y.	None	No				Water department	352	9	27			388	Yes
Yonkers, N. Y.	None	No				Water department	1,634					1,634	No
Asheville, N. C	None	No				Water department	65	260				325	Yes
Durham, N. C.				100 free Over 100 $40.00	$4,600.00	Water company	215				215		
Elizabeth City, N. C.	.25	No		35.00	3,220.00	Water company	96				96		Yes
Wilmington, N. C.	Seldom	No				Water department					80	150	Yes
Grand Forks, N. D.	Seldom	No				Water department	53	192	7		252		Yes
Canton, Ohio		No				Water department	558		2	2		558	Yes
Cincinnati, Ohio	95	Yes	1 mile			Fire department							No
Columbus, Ohio	100	No				Fire department							
Conneaut, Ohio	None	No		35.00	6,545.00	Water company	172	15				187	Yes
Delaware, Ohio	None	No		40.00	10.520.00	Water company	263					263	Yes
Elyria, Ohio	All calls	No				Water department					358		Yes
Fremont, Ohio	None	No				Water department					220		
Marion, Ohio	80	No		$37 and $30	13,890.00	Water company	430				354	86	Yes
Massillon, Ohio	Seldom	No		$27.50 & $25	8,475.00	Water company	309					309	No
Middletown, Ohio	None	No				Water department	287					287	No
Newark, Ohio	None	No				Department of public safety	230	481			287	424	No
Piqua, Ohio	100	No				Water department	258	2			260		Yes

Springfield, Ohio	2	No				Water department		725			689	36	Yes
Warren, Ohio	None	No				Water company						179	Yes
Youngstown, Ohio	5	No				Water department							
Zanesville, Ohio	None	No				Water department					25	395	Yes
Guthrie, Okla	None	No				Water department	127	3		3		127	Yes
Muskogee, Okla	In business districts only	No				Water department		628			383	245	Yes
Oklahoma City, Okla	100	Yes	5 miles			Water department	434	332	29		54	741	Yes
Shawnee, Okla	None	No				Water department	160	18		18	160		Yes
Dallas, Ore	None	No			$720.00	City of Dallas	50					50	No
Heppner, Ore	None	No		$21 & $66.66	1,145.00	Water company	38					38	No
Portland, Ore	100	No				Fire department	4,007						
Allentown, Pa	5	No	None	None	None	Water department	537			104		433	Yes
Altoona, Pa	5	No		None	None	Water department	258	516					No
Bradford, Pa	Not used	No		None	None	Water department				282			No
Erie, Pa	50	No	None	None	None	Water department	918						No
Duquesne, Pa	Not used	No		$40.00	$4,600.00	Water department		115				115	Yes
Johnstown, Pa	100	No		25.00		Water company	111	121			80	152	Yes
McKeesport, Pa	None	No		40.00	18,880.00	Water department	466	6				472	Yes
Philadelphia, Pa	30 to 35	Yes	49 miles	None	None	Water department		16,102		840 high	pressure	hydrants	None
Lebanon, Pa	100	No		None	None	Water department	28	180				180	Yes
Meadville, Pa	None	No		None	None	Water department	100	80			4	176	Standard connection
Nazareth, Pa	None	No		$20.00	$1,140.00	Water company	51	6					Yes
New Holland, Pa													
North East, Pa	None	No				Water department	60				2		No
Reading, Pa	50	No		None	None	Water department	16	969			969	16	No
Sharon, Pa	None	No		$35.00	$8,190.00		234						Yes
Shenandoah, Pa	5	No		None	None	Fire apparatus company	102	12	None		125		Yes
Sunbury, Pa	1	No		$18.00	$1,566.00	Water company	67	20	None			87	Yes
Wilkinsburg, Pa		No		$30 to $50	35,000.00	Water company					479		No
Williamsport, Pa	Very small	No		5.00	1,780.00	City	350	6					No

Information relative to public fire service—concluded

TOWN	PER CENT OF FIRES WHERE STEAMERS ARE USED	DO YOU HAVE SEPARATE HIGH PRESSURE SYSTEM?	IF SO, TO WHAT EXTENT?	ANNUAL REVENUE		WHO MAINTAINS HYDRANTS AND VALUES?	HYDRANT CONNECTIONS			DESCRIPTION OF FIRE HYDRANT			DO HYDRANTS CONFORM TO THE NATIONAL STANDARD?
				Per hydrant	Total		4″	6″	8″ and larger	4½″ steamer connection and no 2½″ hose connection	One 4½″ steamer connection and one or more 2½″ hose connection	One or more 2½″ hose connection and no 4½″ steamer connection	
Providence, R. I.	Very small	Yes	1¾ square miles	...	$20,000.00	Water department	...	...	...	...	...	2,445	...
Charleston, S. C.	100	No	...	$40.00	25,120.00	Water company	...	100	None	...	628	...	Yes
Columbia, S. C	7	No	...	None	None	Water department	23	286	None	None	126	183	Yes
Mitchell, S. D.	None	No	...	None	None	Water department	81	...	...	None	None	81	Yes
Clarksville, Tenn	Business district	No	...	$50.00	$6,500.00	Water department	...	...	...	...	131	...	Yes
Jackson, Tenn	80	...	...	None	None	Water department	...	...	...	...	All	...	...
Memphis, Tenn.	75	No	...	None	None	Water department Paid by fire department	1,000	522	...	...	1,472	50	Yes
Nashville, Tenn.	100	No	...	None	None	Water department	...	...	...	...	...	...	Yes
Denison, Texas	100	No	...	None	None	Water department	125	46	None	...	9	162	Yes
El Paso, Texas	2	No	...	$52.50	$30,000.00	Water department	None	175	128	...	303	...	Yes
Galveston, Texas	Large fires	No	...	None	None	Water department	...	...	...	...	...	...	Yes
Laredo, Texas	None	No	...	$40.00	$5,400.00	Water company	135	None	None	...	135	...	...
San Antonio, Texas	Partly	No	...	...	24,000.00	Water company	541	800	None	...	279	1,062	Yes
Temple, Texas	None	No	...	None	None	Water department	72	50	None	...	50	72	Yes
Waco, Texas	90	No	...	...	$12,500.00	Water department	220	300	None	...	520	...	No
Ogden, Utah	Very small	...	...	$35.00	5,145.00	Water department	...	147	...	...	147	...	Yes
Salt Lake City, Utah	...	No	...	None	None	Water department	1,006	729	None	...	1,735	...	No
Burlington, Vt.	Less than 5	Yes	...	$20.00	$4,060.00	Water department	...	...	...	...	...	...	Yes
Manchester, Vt.	None	...	...	$15 to $25	915.00	Water company	44	None	None	...	45	...	...
Rutland, Vt.	None	No	...	...	...	Water department	...	...	...	...	5	164	Yes

Lynchburg, Va	40	Yes		None	None	Water department	100	325	None		310	15	Yes
Richmond, Va	95	No		None	None	Water department	1,229	10			718	521	Yes
Roanoke, Va	None	No		$20.00	$5,740.00	Water company	162	130	1		133	160	Yes
Anacortes, Wash	None	No		54.00	1,728.00	Water company	3	28				31	Yes
Hoquiam, Wash	None	No		$30 to $40	3,106.21	Water company		6			110		Yes
Marcus, Wash	None	No		18.00	480.00	Water company	30				28	2	Yes
North Yakima, Wash	33⅓	No		45.00	6,525.00	City							
Seattle, Wash	Less than 5	No		12.00	66,000.00	Water department	53	4,799	256		5,480	20	Yes
Spokane, Wash	3.5	No			9,000.00	Water department	1,754	387	1				Yes
Tacoma, Wash	100	No		48.00	63,216.00	Water department	350	925	42		1,267	50	Yes
Walla Walla, Wash	None	No			6,000.00	Water department					284		Yes
Ashland, Wis	None	No			15,110.00	Water company	247					247	No
LaCrosse, Wis	Very small	No				Water department		541			541		Yes
Madison, Wis	None	No		40.00	14,760.00	Water department	360	72			72	360	Yes
Marinette, Wis	None	No		30.00	9,650.00	Water company					260		
Racine, Wis		No		25.00	16,500.00	Water company					660		
Superior, Wis	1.5			40.00	31,040.00	Water company	24	752			686	90	No
Waukesha, Wis	None	No		30.00	7,170.00	Water department		239			232	7	
Beloit, Wis	None	No		36.50	15,264.62		110	97					Yes
Green Bay, Wis	None	No			24,000.00	Water company		416			21	395	Yes
Milwaukee, Wis	100	Yes		5.00	16,700.00	Water department		3,340			3,340		Yes
Cheyenne, Wyo	None	No		None	None	Water department	140	24			24	140	Yes

Information relative to private fire service

CITY	RATE FOR SERVICE AUTOMATIC SPRINKLER CONNECTIONS	RATE FOR PRIVATE FIRE HYDRANTS	MAXIMUM SIZE CONNECTION INSTALLED FOR FIRE SERVICE	DO YOU INSTALL METERS ON PRIVATE FIRE LINES?	DO YOU RECOMMEND THE METERING OF PRIVATE FIRE SERVICE LINES?
			inches		
Anniston, Ala.	10 cents per head	$40.00	6	Sometimes	Yes
Bessemer, Ala.	None	50.00	6	No	No
Mobile, Ala.	5 cents per head	12.50	6	Now installing detectors on all fire lines	Yes
Phoenix, Ariz.	None	Metered	4	Yes	Yes
Fort Smith, Ark.	12½ cents per head—1st =$2.00; 5 cents per head—2nd=$2.50	$45.00	6	Few	Not prepared to answer
Pine Bluffs, Ark.	$50.00	40.00	4	No	No
Pomona, Cal.	....	$1.00 per month per plug	2½	No	No
Sacramento, Cal.	No rate	No rate	None	No	Yes
San Diego, Cal.	$1.00 per month	Meter rate	6	Yes	By-Passed meters
San Francisco, Cal.	$1.00 per inch	$1.00 per inch	6	Only on sprinkler connections	No
Stockton, Cal.	None	None	None	Yes	Yes
Colorado Springs, Col.	No charge	$30.00	6	No	Yes
Denver, Col.	$120.00	22.50	6	No	Yes
Bristol, Conn.	No rate	20.00	6	No	No
Hartford, Conn.	None	None	None	Hersey detectors in use	....
Manchester, Conn.	Free	$30.00	....	No	....
Meridian, Conn.	No charge	No charge	6	Sometimes	Yes
New Britain, Conn.	None	None	....	No	Yes
New Haven, Conn.	None	$20.00	6	No	No
New London, Conn.	No charge	No charge	8	No	Yes
Stamford, Conn.	No charge	$16.00	8	Yes	Yes
Wilmington, Del.	....	25.00	6	Yes	Yes
Washington, D. C.	Consumer pays for installation of detector	Consumer pays for installation of detector	....	Yes	....
Jacksonville, Fla.	$12.00	Regular rate shown by detector	6	Yes	Yes

Tampa, Fla.	No rate	No rate	Not allowed	Have none	Yes
Athens, Ga.	$50.00	$50.00	6	No	Yes
Atlanta, Ga.	No charge	No charge	8	No	No
Macon, Ga.	6 cents per head	50.00	8	No	Yes
Aurora, Ill.	No charge	No charge	8	No	Yes
Cairo, Ill.	$50.00	$30.00	....	No	Yes
Champaign, Ill.	100.00	40.00	4	Yes	Yes
Decatur, Ill.	Free	Free	6	No	No
Dixon, Ill.	$50.00	$35.00	4	No	Yes
Elgin, Ill.	Meters	Meters	6	Yes	Yes
Freeport, Ill.	2.5 cents per head	3 cents per foot of 6 inch main $7.50 per head	6	Detector meter	Yes
Kankakee, Ill.	$40.00	$40.00	4	Yes	Yes
Lincoln, Ill.	5 cents per head	50.00	6	No	Yes
Oak Park, Ill.	Have none	Have none	....	....	....
Peoria, Ill.	20 cents per head	$50.00	6	No	No
Quincy, Ill.	10 cents per head	30.00	4	Yes—detector	Yes
Rockford, Ill.	Nothing	Nothing	8	No	Yes
Springfield, Ill.	....	....	....	No	Yes
Streator, Ill.	$300.00	$35.00	6	No	Yes
Anderson, Ind.	50.00	50.00	6	Yes	Yes
Brazil, Ind.	None	None	....	Yes	Yes
Elkart, Ind.	$25.00	$50.00	6	No	No
Evansville, Ind.	No charge	No charge	6	No	Yes
Fort Wayne, Ind.	$10.00	No charge	6	Sometimes	Yes
Gary, Ind.	....	....	....	Yes	Yes
Hammond, Ind.	No rate	No rate	6	No	Yes
Jeffersonville, Ind.	None	None	....	Yes	Yes
Kokomo, Ind.	5 cents per head	$25.00	4	Yes—detector	Yes
Logansport, Ind.	None	None	....	No	No
Marion, Ind.	No charge	No charge	6	No	Yes
Mishawaka, Ind.	No charge	No charge	No limit	No	Yes
New Castle, Ind.	Free	Free	8	No	Yes
Richmond, Ind.	Have none	Have none	6	No	Yes
South Bend, Ind.	No charge	No charge	No regulation	No	Yes

Information relative to private fire service—Continued

CITY	RATE FOR SERVICE AUTOMATIC SPRINKLER CONNECTIONS	RATE FOR PRIVATE FIRE HYDRANTS	MAXIMUM SIZE CONNECTION INSTALLED FOR FIRE SERVICE	DO YOU INSTALL METERS ON PRIVATE FIRE LINES?	DO YOU RECOMMEND THE METERING OF PRIVATE FIRE SERVICE LINES?
			inches		
Terre Haute, Ind.	2 inch $5.00 3 inch 10.00 4 inch 20.00	Same	4	Yes	Yes
Vincennes, Ind.	$60.00	$40.00	6	Yes	Yes
Burlington, Iowa	$24.00	24.00	6	No	Depend on local conditions
Clinton, Iowa	$50.00 minimum	50.00	4	Detectors	Yes
Council Bluffs, Iowa	None	None	6	No	No
Davenport, Iowa	No charge	$40.00	6	Yes	Yes
Des Moines, Iowa	Free	Free	6	No	Yes
Dubuque, Iowa	$50.00	$50.00	6	No	Yes
Iowa City, Iowa	Have none	Have none	......	......	......
Keokuk, Iowa	$50.00 minimum	$50.00	4	Detectors	Yes
Muscatine, Iowa	Metered	No rate	6	Yes	By all means
Ottumwa, Iowa	$50.00	$15.00	6	No	In some cases
Sioux City, Iowa	No charge	No charge	6	No	Yes
Waterloo, Iowa	$25.00	......	8	No	Yes
Atchison, Kansas	Free	Free	6	Some	Yes
Fort Scott, Kansas	$50.00	$50.00	......	No	No
Hutchinson, Kansas	100.00	36.00	6	No	......
Lawrence, Kansas	50.00	30.00	6	No	Yes
Parsons, Kansas	......	......	2½	Some	Yes
Pittsburg, Kansas	Have none	Metered	6	Yes	Yes
Wichita, Kansas	$50.00 minimum	$37.50	4	Detectors	Yes
Henderson, Ky.	No charge	No charge	No limit	No	Yes
Lexington, Ky.	$10.00	$50.00	No limit	Yes	Yes
Louisville, Ky.	6 inch $25.00	6 inch $25.00	6	No	No
Alexandria, La.	No rate	No charge	4	Yes	Yes
Baton Rouge, La.	Special	......	4	Yes	Yes
Lake Charles, La.	None	$60.00	6	Some	Yes

New Orleans, La.	....	8 inch—$ 16.00	8	Some	Yes
Baltimore, Md.	$100.00	100.00	8	Yes	Yes
Hagerstown, Md.	50.00	50.00	6	No	No
Arlington, Mass.	None	10.00	8	No	Yes
Beverly, Mass.	No charge	No charge	6	No	....
Brockton, Mass.	No charge	No charge	6	No	Yes
Cambridge, Mass.	....	....	8	Some	....
Chelsea, Mass.	No charge	No charge	6	No	....
Clinton, Mass.	No charge	No charge	6	No	Yes
Concord, Mass.	Metered	No charge	6	Yes	Yes
Everett, Mass.	None	None	4	No	....
Fall River, Mass.	None	None	6	No	Yes
Framingham, Mass.	No definite rate	No definite rate	8	No	Yes
Gardner, Mass.	Not any	....	8	No	....
Gloucester, Mass.	$50.00	$25.00	6	Have one	Yes
Haverhill, Mass.	No charge	No charge	6	No	Yes
Lynn, Mass.	....	....	6	No	Yes
Malden, Mass.	No charge	No charge	8	No	No
New Bedford, Mass.	No charge	No charge	10	Few	Yes
Newburyport, Mass.	No charge	No charge	8	No	Yes
Northampton, Mass.	Free	Free	2	No	No
Somerville, Mass.	No charge	No charge	8	Not yet	Yes
Springfield, Mass.	Nothing	Nothing	6	Yes	Yes
Taunton, Mass.	Free	Free	....	No	Yes
Waltham, Mass.	Nothing	Nothing	6	Under consideration	Under consideration
Winthrop, Mass.	Have none	Have none	....	Yes	Yes
Adrian, Mich.	$50.00	$50.00	6	No	Yes
Alpena, Mich.	Have none	Free	6	No	No
Ann Arbor, Mich.	$75.00	....	....	No	Yes
Battle Creek, Mich.	25.00	$200.00	8	....	....
Bay City, Mich.	No charge	No charge	No restriction	No	Yes
Detroit, Mich.	No charge	No charge	8	Yes	Yes
Escanaba, Mich.	$50.00	$38.00	6	No	No
Flint City, Mich.	Have none	50.00	8	No	Yes
Holland, Mich.	Free	Free	6	Few	Yes
Ishpeming, Mich.	....	....	....	No	No

Information relative to private fire service—Continued

CITY	RATE FOR SERVICE AUTOMATIC SPRINKLER CONNECTIONS	RATE FOR PRIVATE FIRE HYDRANTS	MAXIMUM SIZE CONNECTION INSTALLED FOR FIRE SERVICE	DO YOU INSTALL METERS ON PRIVATE FIRE LINES?	DO YOU RECOMMEND THE METERING OF PRIVATE FIRE SERVICE LINES?
			inches		
Jackson, Mich.	None	None	6	No	Yes
Ludington, Mich.	No charge	$50.00	6	Yes	Yes
Marquette, Mich.	Have none	Have none	....	No	Yes
Owosso, Mich.	Nothing	Nothing	6	Yes	Yes
Saginaw, Mich.	None	None	8	No	Yes
Traverse City, Mich.	No charge	None	6	No	Yes
Duluth, Minn.	....	....	6	Under advisement	Yes
Minneapolis, Minn.	$5.00	$5.00	6	....	....
St. Paul, Minn.	25.00	18.00	12	Yes	Yes
Stillwater, Minn.	100.00	None	6	No	No
Virginia, Minn.	Have none	$100.00	....	No	No
Jackson, Miss.	Free	Free	6	Few	Sometimes
Meridian, Miss.	15 cents per head, minimum $15.00	$10.00 to $50.00	6	Yes	Yes
Independence, Mo.	40.00	$40.00	6	No	Yes
Kansas City, Mo.	None	None	6	No	Yes
Moberley, Mo.	None	None	....	None	Yes
St. Joseph, Mo.	No charge	$40.00	4	No	Yes
St. Louis, Mo.	No charge	No charge	6	Few	No
Sedalia, Mo.	½ cent per head	$30.00	6	No	Depend
Springfield, Mo.	$50.00	50.00	6	Yes	Yes
Billings, Mont.	None	30.00	6	No	Yes
Butte, Mont.	No charge	$10.00 per month	2½	No	No
Missoula, Mont.	None	$60.00	6	No	No
Omaha, Neb.	$24.00	$60.00	6	No	No
Concord, N. H.	Nothing	Nothing	10	No	Yes
Dover, N. H.	None	Metered	12	No	Yes
Keene, N. H.	No charge	No charge	8	No	Yes
Manchester, N. H.	No charge	$25.00	6	No	Yes
Bridgeton, N. J.	$5.00 per year	No charge	Any size	No	No

Camden, N. J.	Metered	No charge	6	Yes	Yes
Garfield, N. J.	$75.00	$30.00	6	No	Yes
Newark, N. J.	15.00	15.00	6	Partly	Yes
Passaic, N. J.	2 inch—$ 50.00 8 inch— 400.00	Free	8	No	Yes
Paterson, N. J.	2 inch—$ 50.00 8 inch— 400.00	...	...	...	...
Perth Amboy, N. J.	Metered	...	6	Yes	Yes
Phillipsburg, N. J.	No rate	$25.00	8	Yes	Yes
Rahway, N. J.	No charge	No charge	6	Yes	Yes
W. Orange, N. J.	Metered	Metered	6	Yes	Yes
Albuquerque, N. M.	No rate fixed	No rate fixed	6	No	Yes
Las Vegas, N. M.	Free	Free	6	No	No
Auburn, N. Y.	Free	Free	12	Yes	Yes
Binghamton, N. Y.	No charge	No charge	4	No	Yes
Cortland, N. Y.	...	$33.33	8	Yes	Yes
Dunkirk, N. Y.	Free	Free	6	Yes, some	Yes
Elmira, N. Y.	2 inch—$25.00 6 inch— 75.00	Same	6	No	Yes
Geneva, N. Y.	No rate	No rate	8	No	No
Glens Falls, N. Y.	None	None	6	Yes	Yes
Gloversville, N. J.	No charge	No charge	6	No	Yes
Jamestown, N. Y.	No charge	$40.00	6	Yes	Yes
Kingston, N. Y.	$25.00	25.00	6	No	No
Little Falls, N. Y.	No charge	No charge	6	No	Yes
Mt. Vernon, N. Y.	Minimum $100.00	$30.00	6	No	Yes
	$20.00 per head	...	...	...	...
New Rochelle, N. Y.	$30.00 per floor...	$33.000	8	No	...
N. Tonawanda, N. Y.	No rate	No rate	4 to 10	Yes	Yes
Ogdensburg, N. Y.	$10.00	Nothing	6	Yes	Yes
Olean, N. Y.	Metered	Regular rate	6	Yes	Yes
Ossining, N. Y.	No charge	No charge	4	No	Yes
Rensselaer, N. Y.	$100.00	...	6	Yes	Yes
Schenectady, N. Y.	No charge	No charge	8	No	No
Syracuse, N. Y.	...	...	...	...	...
Troy, N. Y.	No charge	No charge	No regulation	No	Yes

Information relative to private fire service—Continued

CITY	RATE FOR SERVICE AUTOMATIC SPRINKLER CONNECTIONS	RATE FOR PRIVATE FIRE HYDRANTS	MAXIMUM SIZE CONNECTION INSTALLED FOR FIRE SERVICE	DO YOU INSTALL METERS ON PRIVATE FIRE LINES?	DO YOU RECOMMEND THE METERING OF PRIVATE FIRE SERVICE LINES?
			inches		
Utica, N. Y.	$15.00 minimum	....	8	Some	Yes
Waterford, N. Y.	12½ to 16⅔ cents per head	$50.00	6	Yes	Yes
Watertown, N. Y.	Free	Free	6	Some	Yes
White Plains, N. Y.	$50.00	$35.00	4	Not yet	Yes
Yonkers, N. Y.	No charge	No charge	8	No	Yes
Asheville, N. C.	No rate	No rate	Any size	Yes	Yes
Durham, N. C.	....	$40.00	10	No	No
Wilmington, N. C.	None	64.00	6	No	No
Grand Forks, N. D.	No charge	No charge	6	No	No
Canton, Ohio	No rate	None	4	Yes	Yes
Cincinnati, Ohio	No charge	No charge	6	No	No
Columbus, Ohio	$6.00 per floor	$6.00	6	Few	Yes
Elyria, Ohio	Have none	Have none	8	No	Yes
Fremont, Ohio	Make no charge	Make no charge	6	No	Yes
Marion, Ohio	$8.00 minimum	$8.75 each	6	No	Yes
Massillon, Ohio	$30.00 minimum	$25.00 each	6	No	Yes
Middletown, Ohio	No charge	No charge	6	Only on stand pipe	Yes
Newark, Ohio	Have none	Have none	6	No	Yes
Piqua, Ohio	No charge	No charge	6	No	Yes
Springfield, Ohio	No charge	No charge	8	No	Yes
Tiffin, Ohio	$10.00 minimum	$30.00	....	....	....
Warren, Ohio	$20.00 minimum	25.00	2½ hose	No	Yes
Youngstown, Ohio	No charge	No charge	8	Yes	Yes
Zanesville, Ohio	No charge	No charge	6	No	No
Guthrie, Okla.	Have none	Have none	....	No	Under consideration
Muskogee, Okla.	No rate	No rate	4	No	....
Oklahoma, Okla.	No rate	No rate	6	No	Yes
Shawnee, Okla.	None	None	6	No	Yes
Portland, Ore.	$12.00 to $60.00	$12.00 to $60.00	8	No	No

Allentown, Pa.	None	None	8	No	Yes
Altoona, Pa.	No charge	No charge	6	Yes	Yes
Bradford, Pa.	None	None	4	No	Yes
Duquesne, Pa.	Have no private service	No private service	....	No	No
Erie, Pa.	No charge	No charge	6	No	Yes
Johnstown, Pa.	$10.00 per floor........	$37.50	6	No	Yes
Lebanon, Pa.	No charge	No charge	4	No	Yes
McKeesport, Pa.	....	....	....	No	....
Meadville, Pa.	No charge	No charge	6	No	Yes
Philadelphia, Pa.	No charge	No charge	6	Yes	Yes
Reading, Pa.	Free	Free	8	Yes	Yes
Sharon, Pa.	....	....	....	....	....
Shenandoah, Pa.	None	None	....	No	No
Sunbury, Pa.	No charge	$1.00 per opening	....	No	Yes
Williamsport, Pa.	$75.00 to $100.00	$50.00	4	Y s	Yes
Pawtucket, R. I.	....	....	....	....	....
Providence, R. I.	....	....	10	Yes	Yes
Charleston, S. C.	....	$40.00	6	No	Yes
Columbia, S. C.	4 inch—$ 80.00 6 inch— 160.00	10.00	8	No	No
Jackson, Tenn.	No charge	No charge	6	No	Yes
Memphis, Tenn.	$36.00 minimum	$24.00 minimum	6	Yes	Yes
Nashville, Tenn.	8.00 minimum	Metered	4	No	Yes
Denison, Texas.	Meters	No charge	3	No	Yes
El Paso, Texas.	$25.00 per month	$26.25	8	No	Yes
Galveston, Texas.	....	....	6	No	Yes
Laredo, Texas.	None	$10.00 per annum	2	No	Can't advise
San Antonio, Texas.	$25.00	$25.00	6	No	Yes
Temple, Texas.	Metered	No charge	6	No	See Answer
Waco, Texas.	Free	Free	6	No	Yes
Ogden, Utah.	$35.00	$35.00	6	No	....
Salt Lake City, Utah.	Free	Free	6	Yes	Yes
Burlington, Vt.	No charge	No charge	6	No	Yes
Rutland, Vt.	Have none	Have none	....	No	....
Lynchburg, Va.	No charge	No charge	6	No	Yes

Information relative to private fire service—Continued

CITY	RATE FOR SERVICE AUTOMATIC SPRINKLER CONNECTIONS	RATE FOR PRIVATE FIRE HYDRANTS	MAXIMUM SIZE CONNECTION INSTALLED FOR FIRE SERVICE	DO YOU INSTALL METERS ON PRIVATE FIRE LINES?	DO YOU RECOMMEND THE METERING OF PRIVATE FIRE SERVICE LINES?
			inches		
Richmond, Va.	Meter rates	Meter rates	6	Yes	Yes
Roanoke, Va.	$20.00 per annum		8	No	Yes
N. Yakima, Wash.	No rate	No rate	Have none	None	
Seattle, Wash.	No charge	No charge	6	Yes	Yes
Spokane, Wash.	6 inch—$30.00	None	8	No	No
Tacoma, Wash.	6 inch— 30.00	No charge	6	Yes	Yes
Walla Walla, Wash.	No charge	No charge		Yes	Yes
Ashland, Wis.	$3.00 each 1,000 feet	$50.00	6	Yes	Yes
Beloit, Wis			6	Yes	Yes
Greenbay, Wis.	6 inch—$75.00		6	No	
La Crosse, Wis.	No rate	No rate			Yes
Madison, Wis.	4 inch—$20.00			No	Yes
Marinetta, Wis.	$50.00 minimum	$30.00	4	Yes	Yes
Milwaukee, Wis.	No charge	No charge	6	No	Yes
Racine, Wis.	$50.00 minimum	$25.00	4	Yes	Yes
Superior, Wis.	$40.00	40.00	Not fixed	Yes	Yes
Cheyenne, Wyo.	No charge	Cost of installing $3.00 to $5.00	4	No	No
Hollister, Cal.	None		4	No	No
National City, Cal.	No rate	Agreed amount	Agreed on	No	
Reedley, Cal.	Have none	Have none	Have none	No	
Daytona, Fla.	Have none	Cost of installing	4	No	No
Miami, Fla.	$25.00	Have none	6	No	Yes
Downey, Idaho	Have none	$60.00	4	No	
Lake Forest, Ill.	Metered	Metered			
Valparaiso, Ind.	Have none	Have none	Have none		
Washington, Ind.	Have none	Have none	Have none		Yes
Creston, Iowa	Have none	Have none	Have none		Yes
Danville, Ky.	Have none	Have none	Have none		
Brunswick, Me.			8	No	Possibly

Reading, Mass.	No charge	No charge	8	No	Yes
Coldwater, Mich.	No charge	No charge	4	No	No
Mt. Clemens, Mich.	None	No charge	4	No	Yes
Austin, Minn.	None	No charge	....	No	....
Yazoo City, Miss.	$10.00	$5.00 to $35.00	4	No	Yes
Excelsior Spring, Mo.	No charge	No charge	....	No	No
Canandaigua, N. Y.	No flat rate	Meter	6	Yes	Yes
Huntington, N. Y.	None	$30.00	No regulation	No	Yes
Norwich, N. Y.	No rate	No rate	No regulation	No	....
Seneca Falls, N. Y.	5 cents per head	$20.00	8	No	Yes
Elizabeth City, N. C.	None	30.00	6	No	No
Conneaut, Ohio	$50.00	Metered	12	Yes	Yes
Delaware, Ohio	No rate	$40.00	6	No	Yes
Nazareth, Pa.	Only one	20.00	6	No	....
New Holland, Pa.	Metered	Metered	2	....	....
North East, Pa.	No charge	No charge	6	No	....
Mitchell, S. D.	Have none	Have none	....	No	Yes
Clarksville, Tenn.	4 inch—$50.00	No charge	6	Yes	Yes
Manchester, Vt.	None	$25.00	4	No	....
Anacortes, Wash.	Metered	Metered	....	....	....
Hoquiam, Wash.	$6.00 to $75.00	....	8	Yes	Yes
Waukesha, Wis.	....	$30.00	6	Yes	....
Newport, Ky.	No charge	15.00	6	No	No

Information relative to private service lines

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP?	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Anniston, Ala.	Licensed plumbers			Water company to curb	Yes	$8.00 to $50.00 owing to size	⅝" tap with ¾" pipe
Anniston, Ala.	Licensed plumbers	Consumer	12½ $0.40	Consumer	No		½" tap
Mobile, Ala.	Water department	Water department		Water department	No		¾" tap
Phoenix, Ariz.	Water department	See charge for taps		Water department	Yes	¾" $7.00 1" 9.00 1½" 15.00 2" 25.00	¾" x 1" for ordinary residence
Fort Smith, Ariz.	Licensed plumbers	Consumer		Consumer	Yes	½" 2.75 ⅝" 3.25 ¾" 4.00 1" 5.00	½" x ⅝"
Pine Bluff, Ariz.	Water company	Water company	Free	Water company	No		¾"
Pomona, Cal.	Water company	Water company		Water company		$15.00 charge for ¾" tap	¾" pipe to curb including setting of ¾" meter
Sacramento, Cal.	Licensed plumbers	Consumer		Consumer	Yes	¾" $5.00 1" 7.50	¾" x 1"
San Diego, Cal.	Water department	Consumer	¾" $10.00 1" 12.00	Water department	Yes	See price for service lines	¾"
San Francisco, Cal.	Water company	Consumer		Water company	Yes	¾" $10.00–15.00 1" $25.00 2" 30.00 including service	¾" tap
Stockton, Cal.	Water company	Consumer	$8.00	Water company	Yes	$8.00	¾"
Colorado Springs, Col.	Licensed plumbers	Consumer	.20	Consumer	Yes	½" $6.60 ⅝" 7.60 ¾" 9.35	⅝"
Denver, Col.	Licensed plumbers	Consumer	.40	Consumer	Yes	½" 3.00 ⅝" 4.00 ¾" 5.00	½"

Denver, Col.	Licensed plumbers	Consumer	$0.40	Consumer	Yes	1" $6.00 1¼" 10.00 1½" 12.50 2" 15.00	⅝"
Bristol, Conn.	Licensed plumbers	Consumer	......	Consumer	No	......	⅝"
Hartford, Conn.	Water department and plumbers	......	......	Water company and owner	......	......	¾" x 1"
Manchester, Conn.	Water company	Water company	......	......	No	......	¾"
Meriden, Conn.	Water department and owner	Jointly	......	Jointly	No	......	⅝" x ¾"
New Britain, Conn.	Licensed plumbers	Consumer	......	Owner	No	......	¾"
New Haven, Conn.	Plumbers	Consumer	......	Owner	Yes	½" $4.00 ⅝" 5.00 ¾" 6.00	½"
New London, Conn.	Water company	Water company	$0.55	Water company	No	......	⅝"
Stamford, Conn.	Licensed plumbers	Consumer	......	Consumer	Yes	½" Comp $6.00 ¾" 9.00	⅝"
Wilmington, Del.	Water department and plumbers	Jointly	0.88⅓	Jointly	No	......	⅝" x ¾"
Washington, D. C.	Licensed plumbers	Consumer	......	Consumer	Yes	¾" x 1" $3.00 1¼" 4.00 1½" 5.00 2" 8.00	¾"
Jacksonville, Fla.	Water department	Consumer	......	Consumer	Yes	⅝" tap x ⅝" meter on improved street $16.00 ¾" tap x 1" meter on improved street $23.00	⅝" tap x ¾" service pipe
Miami, Fla.	Water company	Company	......	Company	No	......	⅝"
Athens, Ga.	Licensed plumbers	Consumer	$0.10	Consumer	No	......	¾"
Atlanta, Ga.	Water department	Owner	......	Water department	Yes	¾" service x ⅝" meter, $25.00	¾" service ⅝" meter
Macon, Ga.	Licensed plumbers	Owner	......	Owner	Yes	⅝ x ¾" $2.50 1" 4.00 1½" 15.00	¾" x ⅝"
Downey, Idaho	Water company	Owner	Cost	Owner	Yes	Cost	¾"

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP?	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Aurora, Ill..................	Licensed plumbers	Owner	Cost	Owner	Yes	⅝", ¾", 1", $2.50	⅝" x ¾"
Champaign, Ill.............	Water company	Owner	....	Water company	Yes	¾" $10.00, including service	½"
Decatur, Ill................	Licensed plumbers	Owner	....	Owner	No	....	⅝"
Elgin, Ill....................	Water department	Water department	....	Water department	Yes	⅝" $11.50 ¾" 13.50 1" 17.50 including service	⅝" x ¾"
Dixon, Ill..................	Licensed plumbers	Owner	....	Owner	Yes	$1.90 all sizes	⅝"
Freeport, Ill...............	Water company	Owner	Cost	Water company	Yes	Cost	⅝"
Kankakee, Ill..............	Water company	Owner	$5.00	Water company	Yes	Included in service charge	⅝"
Lake Forest, Ill...........	Plumbers or company	Owner	....	Owner	Yes	¾" $5.50 1" 7.50 1½" 15.00 2" 20.00	¾"
Lincoln, Ill.................	Water company	Owner	....	Owner	....	⅝" tap x ¾" service Improved street $12.00 Graded street $6.00	⅝"
Oak Park, Ill...............	Licensed plumbers	Owner	$15.00	Owner	Yes	¾" x ⅝" $3.00 1" 3.50	⅝"
Peoria, Ill..................	Company and plumbers	Jointly	....	Jointly	No	....	½" x ⅝"
Quincy, Ill..................	Company and plumbers	Owner	$0.55 .68	Jointly	Yes	Included in service charge	⅝" x ¾"
Rockford, Ill...............	Water department	Owner	16.00 21.00	Water department	Yes	Included in service charge	¾"
Springfield, Ill...........	Plumbers and company	Owner	10.00	Owner	....	¾" lead service $10.00 for 30′ or less	¾"

Springfield, Ill............	Plumbers and company	Owner	$10.00	Owner	....	Galv. pipe $10.00 for 75 feet or less	¾"
Streator, Ill...............	Licensed plumbers	Owner	....	Owner	No	....	⅝" x ¾"
Anderson, Ind.............	Water department	Owner	....	Water department	Yes	⅝" x ¾" $7.00 1" 10.00 1½" 15.00 $3.00 extra for brick street	⅝"
Brazil, Ind.................	Water department	Owner	$7.50 12.00	Jointly	Yes	Included in service charge	¾"
Elkhart, Ind...............	Licensed plumbers	Owner	....	Owner	Yes	¾" $2.00	¾"
Evansville, Ind............	Water department	Owner	$0.43¾ .53⅓ 1.00 1.66⅔	Water department	Yes	$6.50 dirt 8.00 gravel 15.00 brick 25.00 asphalt	¾"
Fort Wayne, Ind..........	Company and plumbers	Owner	Cost	Jointly	No	....	½"
Hammond, Ind...........	....	Owner	$0.55	Owner	Yes	$2.00 each all sizes	¾"
Indianapolis, Ind..........	Licensed plumbers	Owner	....	Owner	No	....	½"
Jeffersonville, Ind..........	Company and plumbers	....	....	Water company	No	....	¾"
Kokomo, Ind...............	Water company	Company	....	Company	No	....	½"
Logansport, Ind............	Water department	....	....	Water department	Yes	$5.00 per tap	⅝"
Marion, Ind...............	Licensed plumber	Owner	....	Jointly	No	....	¾"
Mishawaka, Ind............	Water department and plumbers	Owner	....	Water department	Yes	⅝" $14.00 ¾" 15.00 1" 17.00 including service to property line	⅝"
New Castle, Ind...........	Water department	Owner	....	Water department	Yes	¾" or less $7.50 1" $10.00 1½" 15.00 2" 20.00	⅝"
Richmond, Ind............	Water company	Owner	$10.00	Owner	Yes	Included in service charge	⅝"
South Bend, Ind...........	Licensed plumbers	Owner	....	Owner	Yes	¾" $4.00 1" 6.00	¾"

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP?	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Terre Haute, Ind.	Water company and plumbers	Owner to curb	$8.00	Owner	No		⅝"
Vincennes, Ind.	Water company	Company		Company	Yes	Cost	½" x ¾"
Valparaiso, Ind.	Licensed plumbers	Owner		Company	Yes	½" $9.00 ⅝" 10.00 ¾" 12.00 1" 15.00	⅝"
Washington, Ind.	Water company	Company	$0.35	Company	No		¾"
Burlington, Iowa.	Company and plumbers	Owner to plumber	.25	Jointly	No		½"
Clinton, Iowa.	Water company	Consumer		Consumer			½"
Council Bluffs, Iowa.	Plumbers	Owner	$0.75	Owner	Yes	¾" x less $2.50 1" 3.00	⅝" x ¾"
Creston, Iowa.	Licensed plumbers	Owner	.20 .35	Owner	Tap	ping by plumber	⅝"
Davenport, Iowa.	Plumbers	Owner		Owner	No		½" x ⅝"
Des Moines, Iowa.	Plumbers	Owner		Owner	No		⅝"
Iowa City, Iowa.	Licensed plumbers	Owner	$0.60	Owner	Yes	$1.00 for all sizes	⅝" x ¾"
Keokuk, Iowa.	Plumbers	Owner		Owner	Yes	1.00 for all sizes	½"
Muscatine, Iowa.	Licensed plumbers	Owner		Owner	Yes	Cost	½"
Ottumwa, Iowa.	Licensed plumbers	Owner	$0.35	Owner	No		⅝"
Sioux City, Iowa.	Licensed plumbers	Owner		Owner	Yes	½" $3.00 ⅝" 4.00 ¾" 5.00 1" 7.00	½"
Waterloo, Iowa.	Licensed plumbers	Owner		Owner	Yes	1" or less 1.00	⅝"
Atchison, Kan.	Licensed plumbers	Owner	$0.22	Owner	Yes	¾" x less 2.00	½"
Fort Scott, Kan.	Plumbers	Owner	.125	Owner	Yes	⅝" 4.00	⅝"
Hutchinson, Kan.	Plumbers	Owner		Company	No		⅝"
Lawrence, Kan.	Plumbers	Owner		Owner	Yes	⅝" $4.00 ½" 6.00 1" 7.50	⅝"

Parsons, Kan..............	Licensed plumbers	Owner	$0.15 .35	Owner	Yes	½" $2.00 ⅝" 2.25 ¾" 3.00	⅝"
Pittsburg, Kan.............	Licensed plumbers	Owner	.12 .75	Owner	Yes	⅝ x ¾" 1.00	⅝"
Wichita, Kan...............	Plumbers	Owner	....	Owner	Yes	½" 2.00 ¾" 3.00 1" 4.00	⅝"
Danville, Ky................	Licensed plumbers	Owner	....	Jointly	No	....	½"
Henderson, Ky.............	Water department	Owner	....	Water department	Yes	¾" $8.00 1" 10.00 including service	¾"
Lexington, Ky..............	Water company	Owner	....	Company	Yes	⅝" $14.50 including service	⅝"
Louisville, Ky..............	Water department	Owner	....	Water department	Yes	⅝" $11.14 including service	⅝"
Newport, Ky...............	Water department	Owner	½" $0.80 ⅝" .95	Water department	Yes	....	½"
Alexandria, La.............	Water department and plumbers	Owner	....	Water department	Yes	½" $6.00 ¾" 9.00 1" 12.00 including service	½"
Baton Rouge, La...........	Licensed plumbers	Owner	....	Owner	Yes	$2.50 for all sizes	½" to 1"
Lake Charles, La...........	Licensed plumbers	Owner	....	Owner	Yes	$1.00	¾"
New Orleans, La..........	Water department	Department	....	Department	No	....	⅝"
Brunswick, Me.............	Water department	Owner	Cost	Owner	No	....	⅝"
Baltimore County, Md.....	Water department	Owner	$9.00 12.00	Owner	Yes	1" $13.50	¾"
Cumberland, Md...........	Water department	Water department	....	....	No	....	¾"
Hagerstown, Md............	Water company	Owner	$0.20	Water company	Yes	$5.00	¾"
Arlington, Mass............	Water department	Owner	....	Owner	No	....	⅝" x ¾"
Beverly, Mass..............	Water department	Water department	....	Water department	No	....	⅝"
Boston, Mass..............	....	....	....	....	......	....	....
Brockton, Mass............	Water department	Jointly	....	Jointly	No	....	¾"
Brookline, Mass............	Water department	Owner	$0.33	Jointly	No	....	⅝"
Cambridge, Mass...........	Water department	Owner	Cost	Jointly	Yes	Average cost $33.17 including service	¾"

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Chelsea, Mass.	Water department	Water department	....	Water department	No	....	⅝″
Clinton, Mass.	Water department	Jointly	$0.30	Jointly	No	....	¾″
Concord, Mass.	Water department	Jointly	Cost and 10 per cent	Jointly	No	....	⅝″ x ¾″
Everett, Mass.	Water department	Owner	$0.40	Water department	No	....	⅝″
Fall River, Mass.	Water department and plumbers	Jointly	....	Jointly	No	....	⅝″ to 1″
Framingham, Mass.	Water department	Jointly	....	Jointly	....	....	½″
Gardner, Mass.	Water department	Jointly	$0.30	Jointly	....	....	¾″
Gloucester, Mass.	Water department	Jointly	.45	Jointly	No	....	⅝″
Haverhill, Mass.	Water department	Owner	.40 .50	Owner	Yes	$2.00 all sizes	⅝″
Lowell, Mass.	Water department	....	....	....	No	....	¾″
Lynn, Mass.	Water department	Jointly	....	Water department	No	....	¾″ x 1″
Malden, Mass.	Water department	Jointly	....	Jointly	No	....	⅝″
New Bedford, Mass.	Water department	Jointly	....	Jointly	Yes	$2.00 all sizes	½″, ⅝″, ¾″, 1″, depending upon district
Newburyport, Mass.	Water department	Jointly	$0.35	Jointly	No	....	¾″
Northampton, Mass.	Water department	Jointly	....	Jointly	Yes	$3.00	¾″ x 1″
Reading, Mass.	Water department	Jointly	$0.40	Jointly	No	....	¾″
Somerville, Mass.	Water department	Owner	....	Jointly	Yes	¾″ $17.00 1″ 25.00 including service	¾″
Springfield Mass.	Water department	Owner	....	Owner	Yes	Cost only	1″
Taunton, Mass.	Water department	Jointly	$0.35	Water department	No	....	1″
Waltham, Mass.	Water department	Jointly	.40	Water department	No	....	1″
Winthrop, Mass.	Water department	Jointly	.38 .60	Jointly	Yes	Included in service charge	⅝″ x ¾″
Adrian, Mich.	Water company	Jointly	.25	Owner	Yes	¾″ $5.00 1″ 10.00 including service to curb	¾″

Alpena, Mich.	Licensed plumbers	Owner	....	Owner	Yes	⅝" $2.50 ¾" 3.00 1" 3.50	⅝"
Ann Arbor, Mich.	Water company	....	....	Water company	Yes	$10.00	¾"
Battle Creek, Mich.	Water department and licensed plumbers	Jointly	$0.18 .45	....	No	....	½"
Bay City, Mich.	Water department and licensed plumbers	Owner	....	Owner	Yes	....	⅝"
Coldwater, Mich.	Water department	....	....	Jointly	Yes	$5.00 for ⅝"	⅝"
Detroit, Mich.	Licensed plumbers	Owner	....	Owner	Yes	⅝" $2.25 1" 3.25	⅝"
Escanaba, Mich.	Water company	Owner	....	Owner	Yes	$15.00 for ¾" including service	¾" x 1"
Flint, Mich	Licensed plumbers	Owner	....	Owner	Yes	$1.50	¾"
Holland, Mich.	Licensed plumbers	Owner	....	Owner	Yes	⅝" $3.00 ¾" 4.00 1" 6.00	⅝"
Ishpeming, Mich.	Water department and plumbers	Jointly	....	Water department	Yes	$12.00 including service to curb	¾"
Jackson, Mich.	Licensed plumbers	Owner	....	Owner	Yes	⅝" $3.00 ¾" 3.50	⅝"
Ludington, Mich.	Licensed plumbers	Owner	....	Owner	Yes	½" 2.25 1" 10.00	½"
Marquette, Mich.	Water department	Owner	....	Owner	Yes	½" 8.00 ¾" 12.00 1" 16.00 service included	½"
Mt. Clemens, Mich.	Licensed plumbers	Owner	....	Owner	Yes	⅝" $9.00 ¾" 10.00 service to stop included	⅝"
Owosso, Mich.	Water department	Owner	....	Jointly	Yes	$10.00 including service to curb	½"
Saginaw, Mich.	Water department and licensed plumbers	Owner	....	Jointly	Yes	¾" $15.50, service to curb included	¾"

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Traverse City, Mich........	Water department and plumbers	Owner	....	Jointly	Yes	$5.00 service to curb included	⅝"
Austin, Minn..............	Licensed plumbers	Owner	....	Owner	Yes	⅝" $2.50 ¾" 3.00 1" 5.00	⅝"
Duluth, Minn.	Water department and plumbers	Owner	0.90	Owner	Yes	Included in service charge	⅝"
Minneapolis, Minn.........	Licensed plumbers	Owner	....	Owner	....	....	⅝"
St. Paul, Minn.............	Water department	Owner	....	Jointly	....	....	⅝"
Stillwater, Minn............	Water department	Owner	0.30 1.50	Owner	Yes	⅝" $3.00 ¾" 3.50 1" 4.50	⅝"
Virginia, Minn.............	Plumbers	Owner	....	Owner	No	....	¾"
Jackson, Miss..............	Water department	Owner	....	Owner	Yes	¾" $10.00 1" 12.00 Service included	¾"
Meridian, Miss.............	Department and plumbers	Owner	0.08 0.12	Water department	Yes	½" $4.00 ¾" 5.00 Meter box included	½"
Yazoo City, Miss...........	Water department and plumbers	Owner	0.10	Jointly	Yes	½" $7.50 ¾" 8.50 1" 10.00 including service to curb	½"
Kansas City, Mo...........	Licensed plumbers	Owner	....	Owner	Yes	½" $2.00 ¾" 3.00 1" 4.00	½"
Excelsior Springs, Mo.......	Plumbers	Owner	....	Jointly	Yes	$6.00 including service to curb	⅝"
Independence, Mo..........	Licensed plumbers	Owner	0.25	Owner	Yes	⅝" $2.50 ¾" 2.90 1" 4.00	⅝"

Moberly, Mo.	Licensed plumbers	Owner	0.25 0.40	Owner	Yes	⅝" 3.00 ¾" 4.00 1" 5.00	⅝"
St. Joseph, Mo.	Plumbers	Owner	....	Owner	Yes	⅜" 2.50 ½" 2.75 ⅝" 4.25	⅜" x ½"
St. Louis, Mo.	Department and plumbers	Owner	....	Owner	Yes	½" 3.00 ⅝" 3.15 ¾" 3.65	⅝"
Sedalia, Mo.	Licensed plumbers	Owner	....	Owner	Yes	½" 2.75 ¾" 4.00	½"
Springfield, Mo.	Water company	Owner	....	Owner	Yes	⅝" 4.00	⅝"
Billings, Mont.	Licensed plumbers	Owner	0.35	Owner	Yes	½" 5.00 ¾" 7.00 1" 9.00	½"
Butte, Mont.	Licensed plumbers	Owner	....	Owner	Yes	⅝" 6.50 ¾" 9.00 including stop and box	⅝"
Omaha, Neb.	Licensed plumbers	Owner	....	Owner	Yes	⅜" $2.00 ½" 2.75 ⅝" 3.25 ¾" 4.00	⅜" x ½"
Concord, N. H.	Water department and licensed plumbers	Jointly	....	Jointly	No	....	½"
Dover, N. H.	Water department	Owner	0.29	Jointly	No	....	¾"
Keene, N. H.	Water department	Owner	....	Jointly	Yes	¾" $9.00 including service	¾"
Manchester, N. H.	Water department	Jointly	0.00	Jointly	No	....	1"
Bridgeton, N. J.	Any one	Owner	....	Owner	Yes	$2.00	¾"
Camden, N. J.	Licensed plumbers	Owner	....	Owner	Yes	½" $3.50 ⅝" 4.50 ¾" 5.50 1" 6.50	½"
Newark, N. J.	Water department	Owner	....	Owner	Yes	⅝" 14.00 1" 20.00	⅝"

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Garfield, N J.	Licensed plumbers	Owner	...	Owner	Yes	$4.00	½"
Passaic, N. J.	Water company	Owner	0.30	Jointly	Yes	$16.50 including service to curb	⅝"
Paterson, N. J.	Water company	Owner	0.30	Jointly	Yes	$14.00 including service to curb	¾"
Perth Amboy, N. J.	Plumbers	Owner	...	Owner	Yes	⅝" $2.50 ¾" 3.00 1" 4.00	⅝"
Phillipsburg, N. J.	Plumbers	Owner	...	Owner	No	...	½"
Rahway, N. J.	Licensed plumbers	Owner	...	Owner	Yes	½" $2.75 ¾" 3.25 1" 3.75	½"
Albuquerque, N. M.	Licensed plumbers	Owner	...	Owner	Yes	¾" 5.00 1" 7.50 1¼" 10.00	¾"
Las Vegas, N. M.	Licensed plumbers	Owner	...	Owner	No	...	½"
Auburn, N. Y.	Water department	Owner	...	Owner	Yes	Cost	⅝"
Binghamton, N. Y.	Water department	Owner	...	Water department	Yes	½" $9.00 ¾" 10.00	¾"
Buffalo, N. Y.	Licensed plumbers	Owner	...	Owner	Yes	⅝" 2.50 ¾" 3.00 1" 4.50 1½" 6.00 2" 10.00	⅝" x ¾"
Canandaigua, N. Y.	Licensed plumbers	Owner	...	Owner	No	...	½" x ¾"
Cortland, N. Y.	Licensed plumbers	Owner	0.20	Owner	No	...	½"
Dunkirk, N. Y.	Water department	Owner	0.90	Owner	Yes	Included in service charge	½"
Elmira, N. Y.	Water company	Owner	$10.00 minimum 0.30	Water company	No	...	¾"
Geneva, N. Y.	Licensed plumbers	Owner	0.40	Owner	Yes	½" $4.00 ¾" 5.00 1" 6.30	½"

Glens Falls, N. Y.	Water department	Owner	0.40	....	Yes	Included in service charge	½″
Gloversville, N. Y.	Department and licensed plumbers	Owner	....	....	....	....	½″ & ¾″
Huntington, N. Y.	Plumbers	Owner	0.30	Jointly	Yes	$4.00	⅝″
Jamestown, N. Y.	Water department	Water department to curb	....	....	No	....	½″ & ¾″
Kingston, N. Y.	Licensed plumbers	Owner	....	Owner	Yes	½″ $7.00 ⅝″ 9.00 ¾″ 12.00	½″
Little Falls, N. Y.	Licensed plumbers	Owner	....	Owner	Yes	½″ 3.00 1″ 3.00	⅝″
Mount Vernon, N. Y.	Licensed plumbers	Owner	....	Owner	Yes	½″ 4.50 ¾″ 6.00 1″ 8.00	½″
New Rochelle, N. Y.	....	Owner	....	Owner	Yes	½″ 8.00 ¾″ 10.00 including pipe and fittings	½″
Newburgh, N. Y.	Plumbers	Owner	....	Water department	No	....	¾″
North Tonawanda, N. Y.	Water department	Owner	....	Owner	Yes	½″ $ 9.00 ¾″ 15.00 including service	½″
Ogdensburg, N. Y.	Water department	Jointly	....	Jointly	No	....	¾″
Olean, N. Y.	Licensed plumbers	Owner	....	Owner	No	....	½″
Ossining, N. Y.	Licensed plumbers	Owner	....	Jointly	Yes	$1.00	⅝″ to ¾″
Peekskill, N. Y.	Licensed plumbers	Owner	....	Owner	Yes	$7.00 to $10.00	½″
Rensselaer, N. Y.	Plumbers	Owner	....	Owner	Yes	⅝″–$5.00 including box and curb cock	⅝″
Seneca Falls, N. Y.	Company and plumbers	Jointly	....	Jointly	No	....	¾″
Schenectady, N. Y.	Licensed plumbers	Owner	....	Owner	Yes	½″ $ 6.00 ¾″ 9.00 1″ 12.00 including curb cock and box	½″

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Troy, N. Y.	Either	Owner	0.50	Owner	Yes	¾″ $ 9.00 1″ 12.00 Included in service charge or charge to plumbers	¾″
Utica, N. Y.	Plumbers	Owner	....	Owner	Yes	⅝″ $ 2.50 ¾″ 3.50 1″ 5.00	⅝
Waterford, N. Y.	Plumbers	Owner	....	Owner	Yes	½″ 6.50 ¾″ 7.00 1″ 7.50	½ & ¾
Watertown, N. Y.	Water department and plumbers	Jointly	....	Jointly	Yes	¾″ 8.00 1″ 10.00	¾″
White Plains, N. Y.	Licensed plumbers	Owner	0.40	Owner	Yes	½″ 7.00 ¾″ 8.00 1″ 9.00 2″ 30.00	¾″
Yonkers, N. Y.	Licensed plumbers	Owner	....	Owner	Yes	⅜″ 2.50 ½″ 3.00 ⅝″ 3.50 ¾″ 4.00	⅜″ to ¾″
Asheville, N. C.	Jointly	Owner	....	Water department	Yes	$5.00	¾″
Durham, N. C.	Licensed plumbers	Owner	....	Water company	....	....	¾″ x 1″
Elizabeth City, N. C.	Jointly	Jointly	....	Jointly	Yes	$5.50	¾″
Wilmington, N. C.	Jointly	Jointly	....	Water department	No	....	¾″
Grand Forks, N. D.	Licensed plumbers	Owner	....	Owner	No	....	⅝″
Canton, Ohio	Water department	Owner	$5.00	Jointly	Yes	¾″ $ 5.00 1″ 8.00 1¼″ 12.00 1½″ 15.00	⅝″

Cincinnati, Ohio...........	Licensed plumbers	Owner	....	Owner	Yes	⅝" 3.00 1" 4.00 1½" 5.00 2" 6.00	⅝"
Columbus, Ohio...........	Water department	Owner	....	Water department	Yes	¾" 12.50 1" 15.00 Service to curb included	¾"
Conneaut, Ohio............	Water company	Owner	$6.50 7.50	Water company	....	....	½" x ¾"
Delaware, Ohio............	Licensed plumbers	Owner	....	Owner	....	....	⅝"
Elyria, Ohio...............	Water department	Owner	....	Jointly	Yes	¾" service $16.00 tap included	⅝"
Fremont, Ohio............	Water department and plumbers	Owner	....	Jointly	Yes	$12.50 service included	¾"
Marion, Ohio..............	Water company	Owner	$0.65	Jointly	No	....	⅝"
Massillon, Ohio............	Water company	Owner	0.18 0.20	Jointly	Yes	½" $5.00 ¾" 7.00 1" 9.00	½"
Middletown, Ohio.........	Licensed plumbers	Water department	....	Water department	Yes	⅝" 3.00 1" 5.00	⅝"
Newark, Ohio.............	Water department to line	Water department	....	Water department	No	....	½"
Piqua, Ohio...............	Licensed plumbers	Owner	....	Owner	Yes	$1.00	¾"
Springfield, Ohio..........	Licensed plumbers	Owner	....	Owner	Yes	1.65	⅝"
Warren, Ohio..............	Licensed plumbers	Owner	....	Owner	Yes	2.00	⅝"
Youngstown, Ohio.........	Licensed plumbers	Owner	....	Owner	Yes	$1.00 to $6.00 according to size	½", ⅝", or ¾"
Zanesville, Ohio...........	Jointly	Owner	....	Owner	Yes	¾" $11.00 1" 12.50 service to curb included	¾"
Guthrie, Okla.............	Water department	Owner	Cost	Water department	Yes	Cost	¾"
Muskogee, Okla............	Licensed plumbers	Owner	....	Jointly	Yes	$7.00 to $15.00	⅝"
Oklahoma City, Okla......	Licensed plumbers	Owner	....	Owner	Yes	¾" $6.00 1" 7.00	¾"

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Shawnee, Okla.	Licensed plumbers	Owner	$0.15	Owner	No		⅝" x ¾"
Dallas, Ore.	Water company	Owner	Cost	Owner	Yes	¾" $3.00 1" 5.00 2" 8.00	¾"
Heppner, Ore.	Water company	Owner	Cost	Owner	Yes	¾" 3.00 1" 5.00 2" 8.00	¾"
Portland, Ore.	Licensed plumbers	Owner		Owner	Yes	¾" and smaller $1.00 1" $3.00 1¼" 5.00	½"
Allentown, Pa.	Licensed plumbers	Consumer		Consumer	Yes	¾" 2.50 1" 3.40 1½" 6.50 2" 8.50	¾"
Altoona, Pa.	Employees of department	Consumer	$0.88 2.00	Department	No		¾"
Bradford, Pa.	Employees of department	Water department		Water department	No		½"
Erie, Pa.	Employees of department			Water department	No		¾"
Duquesne, Pa.	Water department	Water department	Line $13.00	Water department	Yes		½" to 1"
Johnstown, Pa.	Plumbers	Owners		Property owners	Yes	⅝" $2.00 ¾" 3.00 1" 4.00	⅝"
McKeesport, Pa.	Water department	Property owners		By department			¾"
Philadelphia, Pa.	Licensed plumbers	Property owners		Property owners	Yes	$1.00 with charge for street cut	Any size subject to minimum
Meadville, Pa.	By department to curb	Consumers	$6.50 to $10.00	Department			½"

Nazareth, Pa.	Water company	Consumers	$5.00 line	Water company	$3.00 includes all	...	...
New Holland, Pa.	Plumber	Company	...	Company	Yes	$5.00 to curb	½"
North East, Pa.	Licensed plumbers	Owner	...	Owner	No	...	½"
Reading, Pa.	Property owners	Owner	...	Owner	Yes	½" $2.00 ¾" 2.00 1" 3.00	½"
Sharon, Pa.	Licensed plumbers	Owner	...	Owner	Yes	$3.50	½" and ¾" tap
Shenandoah, Pa.	Licensed plumbers	Owner	...	Owner	No	...	½" tap
Sunbury, Pa.	Water company	Owner	$8.00 to $10.00	Owner	Service line includes all	...	¾"
Wilkinsburg, Pa.	Either consumers or company	Owner	...	Owner	Yes	$2.00	½"
Williamsport, Pa.	Consumer	Consumer	...	Owner	Yes	$1.00 for ½" 1.50 for ¾"	½"
Providence, R. I.	Water department and plumbers	Water department	...	City	No	½" or ⅝" $2.75 ¾" or 1" 3.25	½" & ⅝"
Charleston, S. C.	Company	Consumer	...	Company	Included in cost of service	...	¾"
Columbia, S. C.	Water department	Water department	...	Water department	Yes	¾" $ 5.00 1" 7.50 1½" 10.00	¾"
Mitchell, S. D.	Licensed plumbers	Owner	$0.50	Owner	Yes	¾" 3.00	¾"
Clarksville, Tenn.	Licensed plumbers	Owner	0.50	Owner	Yes	$1.00	¾"
Jackson, Tenn.	Licensed plumbers	Owner	...	Owner	Yes	$2.00 up to 1"	½" to ¾"
Memphis, Tenn.	Water department	Water department	...	Water department	No	...	½"
Nashville, Tenn.	Licensed plumbers	Consumer	...	Consumer	No	...	⅝"
Galveston, Texas	Water department	Owner	...	Owner	...	...	...
Denison, Texas	Water department	Water department	...	Water department	No	...	⅝"
El Paso, Texas	Water department	Owner	...	Water department	Yes	...	¾"

Information relative to private service lines—Continued

CITY	INSTALLED BY WHOM	PAID BY	PRICE PER FOOT	BY WHOM MAINTAINED	DO YOU CHARGE FOR TAP?	IF SO, PRICE FOR SAME	SIZE OF TAP FOR ORDINARY RESIDENCE
Laredo, Texas	Water company	Consumer		Water company	Yes	$5.00 includes service to curb	½" to ¾"
San Antonio, Texas	Plumbers	Consumer		Consumer	Yes	½" $1.00 to 1" $2.00	½"
Temple, Texas	Licensed plumbers	Property owner		Water department	Yes	½" $3.60 ¾" 4.40 1" 5.20	¾"
Waco, Texas	Licensed plumbers	Property owner		Property owner	Yes	½" 2.50 ⅝" 3.50 1" 4.50	½" & ⅝"
Ogden, Utah	Licensed plumbers	Property owner		Property owner	Yes	½" 3.50 ¾" 5.00 1" 6.00	½"
Salt Lake City, Utah	Water department	Property owner		Water department	Yes	$8.00 for ⅝" and ¾", including tap	⅝"-¾"-1"
Burlington, Vt.	Water department	City		City	No		½"
Manchester, Vt.	Plumbers and department	Consumer	$0.18	Consumer	Yes	½" $5.50 ¾" 6.50	½"
Rutland, Vt.	Department and plumbers	Jointly		Jointly	No		¾" tap
Lynchburg, Va.	Water department	Water department	$0.30	Water department	No		¾"
Richmond, Va.	Water department			Water department	No		⅝" to 1"
Roanoke, Va.	Water company to curb	Water company		Water company	No		½"
Anacortes, Wash.	Water department	Water department		Water department	Yes	½" $ 8.00 ¾" 10.00 1" 13.00	½"
Hoquiam, Wash.	Water company	Water company		Water company			¾"
Marcus, Wash.	Water company	Consumer		Consumer	No		¾"
North Yakima, Wash.	Water company	Water company		Water company	No		¾" to 1"
Seattle, Wash.	Water department	Jointly		City to property line	Yes	Included in cost of service	½" & ¾"

Spokane, Wash.............	Water department to curb	Consumer	....	Property owner	Yes	At cost	¾″
Tacoma, Wash.............	Water department	Consumer	$0.45	Water department	Yes	¾″ $ 9.00 1″ 12.00 1¼″ 15.00	¾″
Walla Walla, Wash..........	Water department	Consumer	....	Water department	Yes	¾″ 8.00 1″ 10.00 including service	¾″
Ashland, Wis...............	Water company	Water company	$0.40	Jointly	Yes	⅝″ $ 3.25 ¾″ 4.00	⅝″
LaCrosse, Wis.............	Licensed plumbers	Consumer	....	Property owner	No	....	⅝″
Madison, Wis...............	Jointly	Consumer	....	Jointly	Yes	⅝″ 17.00 ¾″ 19.50	⅝″ & ¾″
Marinette, Wis.............	Plumber	Consumer	....	Consumer	No	....	⅝″
Racine, Wis................	Plumber	Consumer	....	Consumer	Yes	½″ 1.50 ¾″ 2.00 1″ 3.00	½″
Superior, Wis..............	Water company	Consumer	....	Water company	Yes	$20.00 to $45.00 including everything to curb	¾″
Waukesha, Wis.............	Water department	Property owner	$0.66	....	Yes	Included in cost of service	¾″
Beloit, Wis.................	Water company	Consumer	....	Water company	Yes	$15.00 includes cost of service	⅝″
Green Bay, Wis............	Water company	Water company	....	....	....	....	⅝″
Milwaukee, Wis............	Licensed plumbers	Consumer	....	Consumer	....	⅝″ $ 5.00 ¾″ 6.00 1″ 8.00	⅝″ & ¾″
Cheyenne, Wyo............	Licensed plumbers	Consumer	$0.50	Consumer	Yes	½″ 15.00 ⅝″ 20.00 including service	½″